# **APPENDIX K**

# Wetlands and Waters of the U.S. Determination Technical Memorandum



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#### Wetlands and Waters of the U.S. Determination Technical Memorandum

To: Idaho Panhandle National Forests and Lolo National Forest

From: Matthew Vesh, Wetland Scientist/Botanist, SWCA Environmental Consultants

**Date:** July 16, 2015

**Subject:** Lookout Pass Ski Area Expansion EIS, Shoshone County, Idaho, Mineral

County, Montana

# INTRODUCTION

Lookout Pass Ski and Recreation Area has proposed to expand its ski area south and west of the current special-use permit boundary onto additional National Forest System (NFS) lands within the Idaho Panhandle National Forests (IPNFs) and Lolo National Forest (LNF). The Proposed Action would add approximately 100 acres of new ski trails and gladed terrain, and would include the installation of two new lifts (Lifts 5 and 6); an upgrade of Lift 1; construction of a new restroom, maintenance shop, and ski patrol building; and the addition of 130 new parking spaces. Also included would be 2.8 miles of new or reconstructed permanent road for administrative and maintenance use by the Forest Service and Lookout Pass Ski and Recreation Area, as well as 1.2 miles of temporary roads for timber harvest and construction access.

The project area is approximately 12 miles east of Wallace, Idaho, along Interstate 90 on the Idaho-Montana border. The wetlands and waters of the U.S. survey included all lands in the project area where ski area expansion disturbance would occur, plus a 150-foot buffer.

# WETLANDS AND WATERS OF THE U.S. DETERMINATION

# Methodology

Two types of investigation were conducted for the project area's wetlands and waters of the U.S. determination: 1) a review of existing information and 2) an on-site investigation.

# Review of Existing Information

SWCA Environmental Consultants (SWCA) biologists reviewed existing literature, maps, and other materials before conducting the on-site investigation, as follows:

- U.S. Geological Survey (USGS) 7.5-minute quadrangles for Lookout Pass, Montana-Idaho.
- U.S. Fish and Wildlife Service (USFWS) National Wetlands Inventory (NWI) overlay for the Lookout Pass, Montana-Idaho, USGS 7.5-minute quadrangles.

- Montana Natural Heritage Program Wetland and Riparian (MTNHP) overlay.
- USGS National Hydrography Dataset streams and creeks layer.
- Aerial photographs.

These sources can only indicate the *likelihood* of the presence of wetlands and waters of the U.S.; actual determinations must be based on data obtained from field investigations.

# On-Site Investigation

#### DETERMINING THE PRESENCE OF WETLANDS AND WATERS OF THE U.S.

During the on-site investigation, SWCA biologists applied the methods defined in the *Engineers Wetlands Delineation Manual* (Environmental Laboratory 1987) and the *Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0)* (U.S. Army Corps of Engineers [USACE] 2010).

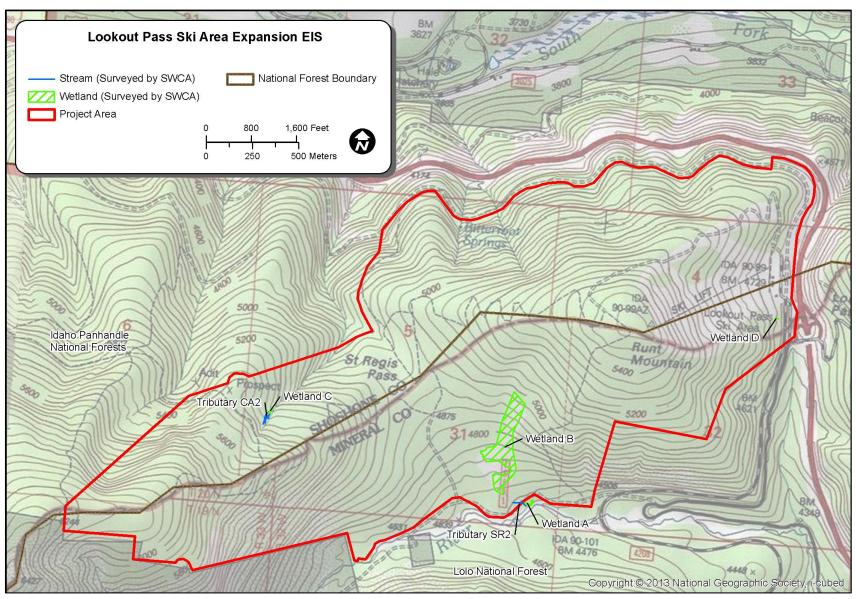
SWCA biologists applied USACE's routine on-site determination method during the wetlands and waters of the U.S. survey. Ten sampling points (P1–P10) were used to record information on each of the three wetland characteristics: vegetation, soils, and hydrology. Observations were recorded on standardized data forms (Attachment A). SWCA biologists used this information to distinguish wetlands from non-wetlands. If wetlands were determined to be present, they were sketched onto aerial photography maps to show their location in relation to the greater wetland survey area. The wetland sketch maps were digitized onto electronic base maps.

# **Results and Conclusion**

In all, four wetlands (A–D) and two waters of the U.S. (Tributaries SR2 and CA2) were identified in the project area (Figure 1; Tables 1 and 2). The wetlands documented during the field survey deviate from those mapped on the NWI and MTNHP maps. Sample points P3 and P4 were taken to document the lack of wetlands in the project area; these are located where the MTNHP map shows the occurrence of a wetland polygon. The western third of Wetland B occurs on the MTNHP map but does not occur on the NWI map. Wetland C does not occur on the NWI or MTNHP. Tributary SR2 does not appear on the NWI, MTNHP, or USGS maps, and Tributary CA2 appears as an intermittent stream on the USGS map only. The St. Regis River exists beyond the limits of the project area.

# Wetlands and Waters of the U.S. Descriptions

The project area exhibits steeply sloping ground trending downward to the north and south from the Idaho-Montana state line, which is centrally located in project area. The landscape is primarily forested, with the exception of ski trails throughout the existing ski area, and naturally occurring shrub-carr wetlands located north and south of NFS Road 18591. The wetlands in the project area are associated with convergent slopes, seeps, streams, and impoundments from historic development activities where hydrology is persistent enough to support a predominance of hydrophytic vegetation. There are two areas in which historic road cuts were made within non-stream uplands where groundwater has been exposed. These features exist entirely within the historic road prisms and are absorbed back into the soil upon exiting the road prisms.



**Figure 1.** Wetlands and waters of the U.S. identified during survey efforts.

**Table 1.** Wetlands Summary within the Expected Disturbance Area for the Expansion, Plus a 100-foot Buffer

Wetland	Area (acre)	Habitat Guild	Cowardin Classification*		
Wetland A	0.040	Shrub-carr	PSS		
Wetland B	2.360	Shrub-carr/rich fen	PSS/PEM		
Wetland C	0.050	Wet forest	PEM		
Wetland D	0.004	Shrub-carr	PSS		

<sup>\*</sup> PSS = palustrine scrub-shrub; PEM = palustrine emergent. Wetland classification codes are derived from the *Classification of Wetlands and Deepwater Habitats of the United States* (Cowardin et al. 1979).

**Table 2.** Non-Wetland Waters Summary within the Expected Disturbance Area for the Expansion, Plus a 100-Foot Buffer

Non-Wetland Waters	Non-Wetland Waters Area (acre)		Water Type	Watershed
Tributary SR2	0.005	2.5	Perennial	St. Regis River
Tributary CA2	0.040	10 (combined braided channels)	Intermittent	Coeur d'Alene River

#### **WETLAND A**

Wetland A is south and downslope of NFS Road 18591 (Figure B1 in Attachment B). Wetland A is a shrub-carr seep wetland that occurs in the moist forest habitat. In the project area, the wetland encompasses approximately 0.04 acre. Vegetation is dominated by speckled alder (*Alnus incana*), with an understory of lady fern (*Athyrium filix-femina*), clasping twisted stalk (*Streptopus amplexifolius*), arrowleaf ragwort (*Senecio triangularis*), and blue joint grass (*Calamagrostis canadensis*). During the field investigation, soils within Wetland A were hydric and had strong indicators of hydrology, including saturation at the surface and the water table at 10 inches below the surface. The contrasting uplands were dominated by upland and facultative vegetation and lacked hydric soils and indicators of wetland hydrology. A significant decrease in herbaceous vegetation cover and grand fir along with the presence of wild ginger (*Asarum* spp.) and queen's cup (*Clintonia uniflora*) were the primary vegetation components used to identify the upland/wetland boundary. This wetland continues downslope and beyond the project area boundary.

#### **WETLAND B**

Wetland B is north and upslope of NFS Road 18591 (Figures B2 and B3 in Attachment B). Wetland B is a wetland mosaic with elements of shrub-carr seep wetlands and herbaceous swales. Within the project area, the wetland encompasses 2.36 acres. Vegetation is dominated by speckled alder, western coneflower (*Rudbeckia occidentalis*), lady fern, *Angelica* spp., cow-parsnip (*Heracleum maximum*), and graminoid species. During the field investigation, soils within Wetland B were hydric and had strong indicators of hydrology, including saturation at the surface and the water table at 3 inches below the surface. The contrasting uplands were dominated by upland and facultative vegetation and lacked hydric soils and indicators of wetland hydrology. Multiple drainages exist within this wetland mosaic, but they appear to have been impounded north of the mapped historic road and rerouted east and beyond the project area boundary.

#### **WETLAND C**

Wetland C is between braided channels of Stream 2 (Figure B4 in Attachment B). Wetland C is a sloped wetland seep. In the project area, the wetland encompasses 0.05 acre. Vegetation is dominated by Siberian spring beauty (*Claytonia sibirica*), oak fern (*Gymnocarpium dryopteris*), Brewer's miterwort (*Mitella breweri*), and lady fern. During the field investigation, soils within Wetland C were hydric and had strong indicators of hydrology, including saturation at the surface and drainage patters. A near lack of herbaceous vegetation and the presence of fool's huckleberry (*Menziesia ferruginea*) were the primary vegetation components used to identify the upland/wetland boundary. The wetland continues downslope until the confluence of the two bounding channels near the project area boundary.

#### WETLAND D

Wetland D is south of the existing Lookout Pass Ski and Recreation Area buildings (Figure B5 in Attachment B). Wetland D is an isolated wetland seep with an area of less than 200 square feet. Vegetation is dominated by speckled alder, lady fern, tall bluebells (*Mertensia paniculata*), false hellebore (*Veratrum viride*), and wild ginger. During the field investigation, soils within Wetland D were hydric and had strong indicators of hydrology, including saturation at the surface and the water table at 13 inches below the surface. A significant reduction in herbaceous vegetation cover and the dominance of upland vegetation were the components used to identify the upland/wetland boundary.

#### **TRIBUTARY SR2**

Tributary SR2 is a small perennial stream and tributary to the St. Regis River crossing at NFS Road 18591 from northwest to southeast (Figure B6 in Attachment B). Stream 1 is approximately 2.5 feet wide at the ordinary high water mark (OHWM) above and below the existing road prism and approximately 3.5 feet within the road prism.

#### **TRIBUTARY CA2**

Tributary CA2 is a USGS-mapped intermittent stream and tributary to the Coeur d'Alene River located in the north/central portion of the Lookout Pass expansion area (Figure B7 and B8 in Attachment B). The stream originates as a series of seeps that form 3- to 5-foot-wide channels on convergent slopes with uplands located between channels. Three channels cross more or less perpendicular to the planned and flagged road crossing within a distance of 30 feet. These braided channels converge to form wider channels with wetlands contained within the OHWM, whereas new channels form from seeps on the eastern side of the shallow ravine. Downslope of the orange-flagged planned road, the eastern branch channel is 5–12 feet wide, whereas the western branch is as much as 10 feet wide. The distance between these channels is up to 60 feet. Before exiting the project area, the distance between the channels reduces to 35 feet, and the width of the channels reduces to 3–5 feet with wetlands between them. The wetlands are characterized as Wetland C in this memorandum. The channels converge near the boundary of the project area where wetlands are once again contained within the OHWM.

# LITERATURE CITED

- Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. *Classification of Wetlands and Deepwater Habitats of the United States*. Washington D.C.: U.S. Fish and Wildlife Service.
- Environmental Laboratory. 1987. *Corps of Engineers Wetlands Delineation Manual*. Technical Report Y-87-1. Vicksburg, Mississippi: U.S. Army Corps of Engineers Waterways Experiment Station.
- U.S. Army Corps of Engineers. 2010. Regional Supplement to the Corps of Engineers Wetland Delineation Manual: Western Mountains, Valleys, and Coast Region (Version 2.0). Edited by J.S. Wakeley, R.W. Lichvar, and C.V. Noble. ERDC/EL TR-10-3. Vicksburg, MS: U.S. Army Engineer Research and Development Center.

# **ATTACHMENT A**

Data Forms

Project/Site: Lookout Pass		City/County:	Mineral Cour	nty Sampling Date: 6/23/2015
Applicant/Owner: USDA Forest Service				State: Montar Sampling Point: P1
Investigator(s): Matthew Vesh and Amanda	Christensen	Section, T	ownship, Rang	ge: 31, 20N, 32W
Landform (hillslope, terrace, etc.): hillslope			Local relief	(concave, convex, none): concave Slope (%): 50
Subregion (LRR): E, Rocky Mountain Forests a	and Rangeland	Lat:	Lon	ng: Datum:
Soil Map Unit Name:		-	_	NWI classification: None
Are climatic / hydrologic conditions on the site ty	pical for this time	e of year?	Ye	es X No (If no, explain in Remarks)
	•	significantly of		Are "Normal Circumstances" present? Yes X No
Are Vegetation ,Soil	, or Hydrology	naturally prol	•	(If needed, explain any answers in Remarks.)
	•	<u> </u>	point locat	tions, transects, important features, etc.
' ' ' '	Yes <u>X</u>	No	la tha Caman	alad Avaa
'	Yes X	No	Is the Samp	
, ,,	Yes X	No	within a We	165 <u>X</u> 110
Precipitation prior to fieldwork: 0 inches two Remarks:	weeks prior, 82	% precipitation acc	umulation of av	verage for water year.
VEGETATION				
	Absolute	Dominant	Indicator	Dominance Test worksheet:
Tree Stratum (Plot size: 30' r )	% Cover	Species?	<u>Status</u>	Number of Dominant Species
1. Picea engelmannii 2.	45%	Yes	FAC	That Are OBL, FACW, or FAC:5 (A)
3.				Total Number of Dominant
4.				Species Across All Strata: 5 (B)
	45%	= Total Cover		(2)
Sapling/Shrub Stratum (Plot size: 10' r		- 10tai 0010i		Percent of Dominant Species
1. Alnus incana	45%	Yes	FACW	That Are OBL, FACW, or FAC: 100% (A/B)
2.	4370	103	TAOV	Prevalence Index worksheet:
3.	· —			Total % Cover of:Multiply by:
4.	-			OBL species 0 x 1 = 0
5.	· —			FACW species 70 x 2 = 140
	45%	= Total Cover		FAC species 85 x 3 = 255
Herb Stratum (Plot size: 5' r )	4370	- Total Gover		FACU species 0 x 4 = 0
Athyrium angustum	20%	Yes	FAC	UPL species 0 x 5 = 0
Streptopus amplexifolius	15%	Yes	FAC	Column Totals: 155 (A) 395 (B)
Calamagrostis canadensis	15%	Yes	FACW	Prevalence Index = $B/A = 2.55$
Senecio triangularis	10%	No	FACW	Hydrophytic Vegetation Indicators:
5. Geum macrophyllum	5%	No	FAC	1 - Rapid Test for Hydrophytic Vegetation
6.	370		170	X 2 - Dominance Test is >50%
7.				X 3 - Prevalence Index is ≤3.0 <sup>1</sup>
8.	· —			4 - Morphological Adaptations <sup>1</sup> (Provide supporting
9.				data in Remarks or on a separate sheet)
10.				5 - Wetland Non-Vascular Plants <sup>1</sup>
11. moss	15%	No		Problematic Hydrophytic Vegetation <sup>1</sup> (Explain)
111055		= Total Cover		<sup>1</sup> Indicators of hydric soil and wetland hydrology must
Woody Vine Stratum (Plot size: 10' r		- 10tai 00V61		be present.
1.				
2.				Hydrophytic
	0%	= Total Cover		Vegetation Yes X No
% Bare Ground in Herb Stratum 20%				Present?
Remarks:				Entered by: MV QC by:

Profile Description:	(Describe to t	he depth	needed to docu	ment the indicate	or or confirm t	he absence of inc	dicators.)	
Depth	Matrix			Redox	Features			
	olor (moist)	%	Color (mois	t) %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-5 1	10YR 2/1	50					mucky SiL	
0-5		50						woody debris
5-18 1	10YR 2/1	100					SiL	bits of charcoal
18-20 1	10YR 2/1	60					SL	
18-20		40						gravels and rocks
<sup>1</sup> Type: C=Concentrat					ed Sand Grains		L=Pore Lining, M=	
Hydric Soil Indicator	s: (Applicable	to all LRR	ls, unless other	wise noted.)		Indicators for	Problematic Hyd	Iric Soils <sup>3</sup> :
Histosol (A1)			Sandy Red	ox (S5)		2 cm Muc	k (A10)	
Histic Epipedon (	A2)		Stripped Ma				nt Material (TF2)	
Black Histic (A3)			X Loamy Muc	ky Mineral (F1) <b>(e</b>	xcept MLRA 1	) Very Shal	low Dark Surface (	TF12)
Hydrogen Sulfide	(A4)		Loamy Gley	ed Matrix (F2)		Other (Exp	olain in Remarks)	
Depleted Below D	Dark Surface (A	11)	Depleted M	atrix (F3)		3		
Thick Dark Surface	ce (A12)			Surface (F6)		Indicators of	hydrophytic vegeta	tion and
Sandy Mucky Mir	neral (S1)			ark Surface (F7)		wetland hyd	rology must be pre	esent,
Sandy Gleyed Ma	atrix (S4)		Redox Dep	ressions (F8)		unless distu	rbed or problemati	C.
Restrictive Layer (if   Type: Depth (inches): Remarks: S = s		= clay; L =	= loam or loamy;	co = coarse; f = fii		Hydric Soil Prese e; + = heavy (mor	ent? Yes X e clay); - = light (le	<del></del>
HYDROLOGY Wetland Hydrology I	ndicators:							
Primary Indicators (m	inimum of one re	equired; cl	neck all that appl	y)		Secondary Inc	dicators (2 or more	required)
Surface Water (A	.1)		Water-Stair	ned Leaves (B9) (e	except MLRA	Water-Sta	ined Leaves (B9)	(MLRA 1, 2,
X High Water Table	e (A2)		1, 2, 4A,	and 4B)		4A, and	i 4B)	
X Saturation (A3)			Salt Crust (	B11)		X Drainage	Patterns (B10)	
Water Marks (B1)	)		Aquatic Inv	ertebrates (B13)		Dry-Seaso	on Water Table (Ca	2)
Sediment Deposi	ts (B2)		Hydrogen S	Sulfide Odor (C1)		Saturation	Visible on Aerial I	magery (C9)
Drift Deposits (B3	3)		Oxidized RI	nizospheres along	Living Roots (0	C3) Geomorph	nic Position (D2)	
Algal Mat or Crus	t (B4)		Presence o	f Reduced Iron (C	4)	Shallow A	quitard (D3)	
Iron Deposits (B5	5)		Recent Iron	Reduction in Tille	ed Soils (C6)	FAC-Neut	ral Test (D5)	
Surface Soil Crac	ks (B6)		Stunted or	Stressed Plants (D	01) ( <b>LRR A</b> )	Raised Ar	nt Mounds (D6) ( <b>LF</b>	RR A)
Inundation Visible	e on Aerial Imag	ery (B7)	Other (Expl	ain in Remarks)		Frost-Hea	ve Hummocks (D7	")
Sparsely Vegetat	ed Concave Sur	face (B8)						
Field Observations:								
Surface Water Prese	nt? Yes		No_X	Depth (inches	):			
Water Table Present	? Yes	Х	No	Depth (inches	): 10	Wetland I	Hydrology Presen	t?
Saturation Present? (includes capillary fring	Yes	Х	No	Depth (inches	): surface		Yes X	No
Describe Recorded D	ata (stream gau	ıge, monit	oring well, aerial	photos, previous i	nspections), if a	available:		
Remarks:						E	Entered by: MV	_QC by:

2.  3. Total Number of Dominant  4. Species Across All Strata: 9  Sapling/Shrub Stratum (Plot size: 10' r )  Percent of Dominant Species	
Landform (hillslope, terrace, etc.): hillslope Subregion (LRR): E. Rocky Mountain Forests and Rangeland Lat: Long: Datum:    Datum:   Datum:   NWI classification: None	P2
Soli Map Unit Name:	
New   Name   New	50
Are climatic / hydrologic conditions on the site typical for this time of year?  Are Vegetation Soll or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X Are Vegetation Soll or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)  SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, et Hydrophytic Vegetation Present?  Yes No X Is the Sampled Area within a Wetland Hydrology Present?  Yes No X Is the Sampled Area within a Wetland?  Yes No X Wetland Hydrology Present?  Precipitation prior to fieldwork:  O inches two weeks prior, 82% precipitation accumulation of average for water year.  Remarks:  VEGETATION  Tree Stratum (Plot size: 30'r) Absolute Some FAC That Are OBL, FACW, or FAC: 4 Interest Area and Species Across All Strata: 9  1. Picea engelmannii Present (Plot size: 10'r)  1. Abies grandis 10% Yes FACU That Are OBL, FACW, or FAC: 44% Prevalence Index worksheet:  Tadal % Cover of Multiply by:  1. Abies grandis 15% Yes FAC UPL Species 0 X 1 = 0  Sapling/Shrub Stratum (Plot size: 5'r)  1. Mertensia paniculata 15% Yes FAC UPL Species 11 x 2 = 22  FAC UPL Species 11 x 2 = 22  FAC UPL Species 10 x 1 = 0  FAC UPL Species 10 x 5 = 50  Collumn Totals: 130 (A) 430  Assarum caudatum 10% Yes FAC UPL Species 10 x 5 = 50  Collumn Totals: 130 (A) 430  Prevalence Index = BiA = 3.31  Hydrophytic Vegetation Indicators:  That Indicator Stratum Certain significant and indicator should be a prevalence Index is \$50%  That Indicator societantale 5% Yes FAC UPL Species 10 x 5 = 50  Collumn Totals: 130 (A) 430  Prevalence Index = BiA = 3.31  That Indicator should be a prevalence Index is \$50%  That Indicator should be a prevalence Index is \$50%  That Indicator should be a prevalence Index is \$50%  That Indicator should be a prevalence Index is \$50%  That Indicator sh	
Are Vegetation Soil or Hydrology significantly disturbed? Are "Normal Circumstances" present? Yes X Are Vegetation Soil or Hydrology naturally problematic? (If needed, explain any answers in Remarks.)  SUMMARY OF FINDINGS — Attach site map showing sampling point locations, transects, important features, et Hydrophytic Vegetation Present? Yes No X Is the Sampled Area within a Wetland Hydrology Present? Yes No X Within a Wetland? Yes No X That Care in the Sampled Area within a Wetland? Yes No X That Care in the Sampled Area within a Wetland? Yes No X Within a Wetland? Yes No X That Care in the Sampled Area within a Wetland? Yes No X Within a Wetland? Yes No X Within a Wetland? Yes No X That Care in the Sample Area within a Wetland? Yes No X That Care in the Sample Area within a Wetland? Yes No X That Care in the Sample Area within a Wetland? Yes No X That Care in the Sample Area within a Wetland? Yes No X That Care in the Sample Area within a Wetland? Yes No X That Care in the Sample Area within a Wetland? Yes No X That Care in the Sample Area within a Wetland? Yes No X That Care in the Sample Area within a Wetland? Yes No X That Care in the Sample Area within a Wetland? Yes No X That Care in the Sample Area within a Wetland? Yes No X That Care in the Sample Area within a Wetland? Yes No X That Care in the Sample Area within a Wetland? Yes No X That Care in the Sample Area within a Wetland? Yes No X That Care in the Sample Area within a Wetland? Yes No X That Care in the Sample Area within a Wetland? Yes No X That Care in the Sample Area within a Wetland? Yes No X That Care in the Sample Area within a Wetland? Yes No X That Care in the Sample Area within a Wetland? Yes Sample Area within a Wetland? Yes Sample Area within	
Are Vegetation   Soil	arks)
SUMMARY OF FINDINGS – Attach site map showing sampling point locations, transects, important features, et Hydrochytic Vagetation Present?         A vox No X within a Wetland?         Is the Sampled Area within a Wetland?         No X within a Wetland?	10
Hydrophylic Vegetation Present?   Yes	
Hydric Soil Present?   Yes	<u>c.</u>
Wetland Hydrology Present?         Yes         No         X         within a Wetland?         Yes         No         X           Precipitation prior to fieldwork: Remarks:         0 inches two weeks prior, 82% precipitation accumulation of average for water year.           VEGETATION           Tree Stratum (Plot size: 30'r )         Absolute Stratum (Plot size: 30'r )         Dominant Indicator Species? Status (Number of Dominant Species (Number of Domin	
VEGETATION	
VEGETATION           Tree Stratum         (Plot size: 30' r )         Absolute % Cover Species? Status         Indicator Number of Dominant Species         Number of Dominant Species         Number of Dominant Species         That Are OBL, FACW, or FAC: 4         4         Indicator Species         That Are OBL, FACW, or FAC: 4         Indicator Species         Indicator Species Indicator Species         Indicator Species Indicator Species         Indicator Species Indicator Species Indicator Species Indicator Species Indicator Species Indicator Species Indicator Indicator Indicator Species Indicator Indicator Indicator Species Indicator I	
Absolute   Dominant   Indicator   Species   Status   Number of Dominant   Species   Status   Sta	
Tree Stratum         (Plot size: _30' r _)         % Cover _ Species?         Status _ FAC         Number of Dominant Species           1. Picea engelmannii         55% Yes _ FAC         That Are OBL, FACW, or FAC: _4           3	
1. Picea engelmannii       55%       Yes       FAC       That Are OBL, FACW, or FAC: 4         2. 3. 3. 4. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5. 5.	
2. 3.	
Species Across All Strata: 9   Species Across All Strata: 9	A)
Species Across All Strata:       9         Sapling/Shrub Stratum       (Plot size: 10'r)       10%       Yes       FACU       Percent of Dominant Species         1. Abies grandis       10%       Yes       FACU       That Are OBL, FACW, or FAC: 44%       44%         2.       Prevalence Index worksheet:	
Sapling/Shrub Stratum       (Plot size: 10' r )         1. Abies grandis       10%       Yes       FACU       That Are OBL, FACW, or FAC: 44%         2.       Prevalence Index worksheet:	B)
Percent of Dominant Species   Spe	,
1. Abies grandis       10%       Yes       FACU       That Are OBL, FACW, or FAC:       44%         2.       3.       Total % Cover of: Multiply by:         4.       5.       DBL species 0 x1 = 0         FACW species 11 x2 = 22         FAC species 78 x3 = 234         FAC species 31 x4 = 124         1. Mertensia paniculata       15%       Yes       FAC       UPL species 10 x5 = 50         2. Clintonia uniflora       10%       Yes       NOL       Column Totals: 130 (A) 430         3. Asarum caudatum       10%       Yes       FACU       Prevalence Index = B/A = 3.31         4. Viola glabella       10%       Yes       FACW       Hydrophytic Vegetation Indicators:         5. Streptopus amplexifolius       5%       Yes       FACU       1 - Rapid Test for Hydrophytic Vegetation         6. Fragaria virginiana       5%       Yes       FACU       2 - Dominance Test is >50%         7. Thalictrum occidentale       5%       Yes       FACU       3 - Prevalence Index is ≤3.0¹	
2. 3.	A/B)
Total % Cover of: Multiply by:   OBL species   0	
FACW species       11 x 2 = 22         Herb Stratum (Plot size: 5'r )       FAC species 78 x 3 = 234         1. Mertensia paniculata       15% Yes FAC       UPL species 31 x 4 = 124         2. Clintonia uniflora       10% Yes NOL       Column Totals: 130 (A) 430         3. Asarum caudatum       10% Yes FACU       Prevalence Index = B/A = 3.31         4. Viola glabella       10% Yes FACW       Hydrophytic Vegetation Indicators:         5. Streptopus amplexifolius       5% Yes FAC       1 - Rapid Test for Hydrophytic Vegetation         6. Fragaria virginiana       5% Yes FACU       2 - Dominance Test is >50%         7. Thalictrum occidentale       5% Yes FACU       3 - Prevalence Index is ≤3.0¹	
FACW species       11 x 2 = 22         Herb Stratum (Plot size: 5'r )       FAC species 78 x 3 = 234         1. Mertensia paniculata       15% Yes FAC       UPL species 31 x 4 = 124         2. Clintonia uniflora       10% Yes NOL       Column Totals: 130 (A) 430         3. Asarum caudatum       10% Yes FACU       Prevalence Index = B/A = 3.31         4. Viola glabella       10% Yes FACW       Hydrophytic Vegetation Indicators:         5. Streptopus amplexifolius       5% Yes FAC       1 - Rapid Test for Hydrophytic Vegetation         6. Fragaria virginiana       5% Yes FACU       2 - Dominance Test is >50%         7. Thalictrum occidentale       5% Yes FACU       3 - Prevalence Index is ≤3.0¹	
Herb Stratum       (Plot size: 5' r )         1. Mertensia paniculata       15%       Yes       FAC       UPL species       31	_
Herb StratumFACU species31x 4 =1241.Mertensia paniculata15%YesFACUPL species10x 5 =502.Clintonia uniflora10%YesNOLColumn Totals:130(A)4303.Asarum caudatum10%YesFACUPrevalence Index = B/A =3.314.Viola glabella10%YesFACWHydrophytic Vegetation Indicators:5.Streptopus amplexifolius5%YesFAC1 - Rapid Test for Hydrophytic Vegetation6.Fragaria virginiana5%YesFACU2 - Dominance Test is >50%7.Thalictrum occidentale5%YesFACU3 - Prevalence Index is ≤3.0¹	_
1. Mertensia paniculata         15%         Yes         FAC         UPL species         10 x 5 =         50           2. Clintonia uniflora         10%         Yes         NOL         Column Totals:         130 (A)         430           3. Asarum caudatum         10%         Yes         FACU         Prevalence Index = B/A =         3.31           4. Viola glabella         10%         Yes         FACW         Hydrophytic Vegetation Indicators:           5. Streptopus amplexifolius         5%         Yes         FAC         1 - Rapid Test for Hydrophytic Vegetation           6. Fragaria virginiana         5%         Yes         FACU         2 - Dominance Test is >50%           7. Thalictrum occidentale         5%         Yes         FACU         3 - Prevalence Index is ≤3.0¹	_
2. Clintonia uniflora       10%       Yes       NOL       Column Totals: 130 (A) 430         3. Asarum caudatum       10%       Yes       FACU       Prevalence Index = B/A = 3.31         4. Viola glabella       10%       Yes       FACW       Hydrophytic Vegetation Indicators:         5. Streptopus amplexifolius       5%       Yes       FAC       1 - Rapid Test for Hydrophytic Vegetation         6. Fragaria virginiana       5%       Yes       FACU       2 - Dominance Test is >50%         7. Thalictrum occidentale       5%       Yes       FACU       3 - Prevalence Index is ≤3.0¹	_
3. Asarum caudatum         10%         Yes         FACU         Prevalence Index = B/A = 3.31           4. Viola glabella         10%         Yes         FACW         Hydrophytic Vegetation Indicators:           5. Streptopus amplexifolius         5%         Yes         FAC         1 - Rapid Test for Hydrophytic Vegetation           6. Fragaria virginiana         5%         Yes         FACU         2 - Dominance Test is >50%           7. Thalictrum occidentale         5%         Yes         FACU         3 - Prevalence Index is ≤3.0¹	(B)
4. Viola glabella 10% Yes FACW Hydrophytic Vegetation Indicators: 5. Streptopus amplexifolius 5% Yes FAC 1 - Rapid Test for Hydrophytic Vegetation 6. Fragaria virginiana 5% Yes FACU 2 - Dominance Test is >50% 7. Thalictrum occidentale 5% Yes FACU 3 - Prevalence Index is ≤3.0¹	` ′
5. Streptopus amplexifolius 5% Yes FAC 1 - Rapid Test for Hydrophytic Vegetation 6. Fragaria virginiana 5% Yes FACU 2 - Dominance Test is >50% 7. Thalictrum occidentale 5% Yes FACU 3 - Prevalence Index is ≤3.0¹	
6. Fragaria virginiana 5% Yes FACU 2 - Dominance Test is >50% 7. Thalictrum occidentale 5% Yes FACU 3 - Prevalence Index is ≤3.01	
7. Thalictrum occidentale 5% Yes FACU 3 - Prevalence Index is ≤3.0¹	
	nortina
9. Senecio triangularis  1%  No  FACW  data in Remarks or on a separate sheet	
10. Anaphalis margaritacea 1% No FACU 5 - Wetland Non-Vascular Plants <sup>1</sup>	
11. Problematic Hydrophytic Vegetation¹ (Expla	in)
65% = Total Cover Indicators of hydric soil and wetland hydrology	
Woody Vine Stratum (Plot size: 10' r ) be present.	
1	-
2. Hydrophytic	
% Bare Ground in Herb Stratum 35% Vegetation Yes No X  Present?	
Remarks:  Entered by: MV QC by:	

Profile Descrip	otion: (Describ	oe to the depth	needed to docum	ent the indicato	r or confirm tl	he absence of in	dicators.)	
Depth	ı	Matrix		Redox F	eatures			
(inches)	Color (moist	t) %	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-15	10YR 2/2	100					SiL	
		_	_					
		_	_					
	. <u> </u>		_	_				
		_	_					
			_					
		•	duced Matrix CS=0		d Sand Grains		L=Pore Lining, M=Ma	
Hydric Soil Indi	icators: (Appli	cable to all LRF	Rs, unless otherwi	ise noted.)		Indicators fo	r Problematic Hydri	c Soils <sup>3</sup> :
Histosol (A1	•		Sandy Redox			2 cm Mud	, ,	
Histic Epipe	• •		Stripped Mati				nt Material (TF2)	
Black Histic	c (A3)			y Mineral (F1) (ex	cept MLRA 1)		llow Dark Surface (TF	·12)
Hydrogen S	Sulfide (A4)		Loamy Gleye	d Matrix (F2)		Other (Ex	plain in Remarks)	
	elow Dark Surfa	ace (A11)	Depleted Mat			3		
	Surface (A12)		Redox Dark S				hydrophytic vegetation	
	ky Mineral (S1)			k Surface (F7)		_	drology must be prese	ent,
Sandy Gley	red Matrix (S4)		Redox Depre	ssions (F8)		unless distu	irbed or problematic.	
Restrictive Lay	er (if present):							
Type:								
Depth (inches	):					Hydric Soil Pres	ent? Yes	No X
Remarks:	S = sand; Si =	silt; C = clay; L =	= loam or loamy; co	o = coarse; f = fin	e; vf = very fin	e; + = heavy (moi	re clay); - = light (less	clay)
Shovel and prob	oe refusal at 15	inches dues to 5	inch diameter roc	ks				
LIVEROLOG	· · ·							
HYDROLOG Wetland Hydro		e·						
_			heck all that apply)			Socondary In	dicators (2 or more re	quirod)
-	•	. <u> </u>			voont MLDA	· · · · · · · · · · · · · · · · · · ·	•	- <del>-</del>
Surface Wa	• •			d Leaves (B9) <b>(e</b> :	kcept WLHA		ained Leaves (B9) (M	LNA 1, 2,
High Water			1, 2, 4A, a			4A, an	•	
Saturation (			Salt Crust (B				Patterns (B10)	
Water Mark				tebrates (B13)			on Water Table (C2)	2221 (CO)
	Deposits (B2)			lfide Odor (C1)	inima Danta (C		n Visible on Aerial Ima	agery (C9)
Drift Deposi				zospheres along l	-		hic Position (D2)	
Algal Mat or	• ,			Reduced Iron (C4 Reduction in Tilled	•		Aquitard (D3)	
Iron Deposi				ressed Plants (D	` ,		tral Test (D5) nt Mounds (D6) ( <b>LRR</b>	Δ)
	il Cracks (B6) Visible on Aeria	J. Imagasi (D7)			I) (LNN A)		ave Hummocks (D7)	A)
			Other (Explai	n in Remarks)		FIOSI-FIE	ave Hullillocks (D7)	
		ve Surface (B8)						
Field Observati								
Surface Water		Yes	No X	Depth (inches)				
Water Table Pr		Yes	No X	Depth (inches)		Wetland	Hydrology Present?	
Saturation Pres		Yes	No X	Depth (inches)	>15		Yes	No X
(includes capilla		am dalido monit	oring well, aerial pl	notos previous in	enactions) if a	available.		
DESCRIBE DECOL	ucu Dala (Sifet	am yauye, mom	omig wen, aenal pi	iolos, previous ir	ispections), Il è	avaliabi <del>c</del> .		
Remarks:							Entered by: MV	QC by:

Project/Site: Lookout Pass		City/County:	Mineral Coun	nty Sampling Da	ite: 6/23/2015
Applicant/Owner: USDA Forest Service				State: Montar Samplin	
Investigator(s): Matthew Vesh and Amanda	Christensen	Section. T	ownship. Rang	je: 31, 20N, 32W	
Landform (hillslope, terrace, etc.): hillslope		,	-	(concave, convex, none): concave	Slope (%): 10
Subregion (LRR): E, Rocky Mountain Forests	and Rangeland	Lat:	<del>_</del> Lon		•
Soil Map Unit Name:			_	NWI classification:	-
Are climatic / hydrologic conditions on the site	typical for this tim	e of year?	Ye		xplain in Remarks)
	, or Hydrology	-	disturbed? A	Are "Normal Circumstances" present	
Are Vegetation ,Soil,	, or Hydrology	naturally pro	blematic? (	If needed, explain any answers in Re	emarks.)
SUMMARY OF FINDINGS – Attach	site map sho	wing sampling	point locat	tions, transects, important f	eatures, etc.
Hydrophytic Vegetation Present?	Yes X	No			
Hydric Soil Present?	Yes	No <b>X</b>	Is the Samp		
Wetland Hydrology Present?	Yes X	No	within a We	etland? Yes No	X
Precipitation prior to fieldwork: 0 inches tw Remarks:	o weeks prior, 82	% precipitation acc	cumulation of av	verage for water year.	
VEGETATION					
Tors Obstant	Absolute	Dominant	Indicator	Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: <u>30' r</u> )	% Cover	Species?	<u>Status</u>	Number of Dominant Species	
1.	_			That Are OBL, FACW, or FAC:	(A)
2.	_				
3	_			Total Number of Dominant	
4	_			Species Across All Strata:	2 (B)
	0%	= Total Cover			
Sapling/Shrub Stratum (Plot size: 10' r	)			Percent of Dominant Species	
1.	_			That Are OBL, FACW, or FAC:	<u>100%</u> (A/B)
2.	_			Prevalence Index worksheet:	-
3.	_			Total % Cover of: Multiply	by:
4	_			OBL species 0 x 1 =	0
5	_			FACW species 0 x 2 =	0
	0%	= Total Cover		FAC species75 x 3 =	225
Herb Stratum (Plot size: <u>5' r</u> )				FACU species 15 x 4 =	60
1. Athyrium angustum	40%	Yes	FAC	UPL species 5 x 5 =	25
2. Gymnocarpium dryopteris	20%	Yes	FAC	Column Totals: 95 (A)	310 (B)
3. Osmorhiza berteroi	15%	No	FACU	Prevalence Index = B/A =	<u>3.26</u>
4. Tiarella trifoliata	10%	No	FAC	Hydrophytic Vegetation Indicate	ors:
5. Streptopus amplexifolius	5%	No	FAC	1 - Rapid Test for Hydrophytic	Vegetation
6. Clintonia uniflora	5%	No	NOL	X 2 - Dominance Test is >50%	
7	_			3 - Prevalence Index is ≤3.0 <sup>1</sup>	
8	_			4 - Morphological Adaptations	<sup>1</sup> (Provide supporting
9	_			data in Remarks or on a se	eparate sheet)
10	_			5 - Wetland Non-Vascular Pla	nts <sup>1</sup>
11. <i>moss</i>	5%	No		Problematic Hydrophytic Vege	etation <sup>1</sup> (Explain)
(Dist -! 40)		= Total Cover		<sup>1</sup> Indicators of hydric soil and wetla	and hydrology must
Woody Vine Stratum (Plot size: 10' r	)			be present.	
1. 2.	_			Hydrophytic	
	0%	= Total Cover			No
% Bare Ground in Herb Stratum 0%	0 /6	- 10141 00161		Present?	<u>-</u>
70 Date Ground in Florid Citatum 070					

Profile Description: (Des	scribe to the	depth n	eeded to docum	ent the indicator	or confirm th	e absence of ir	ndicators.)				
Depth	Matrix			Redox Fe	eatures						
(inches) Color (n	noist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks			
0-10 10YR	3/3		'				SiL	trace grit/sand			
10-17 10YR	2/1						SiL	trace grit/sand			
		,									
			'								
							_				
			'								
<sup>1</sup> Type: C=Concentration, D	=Depletion,	RM=Red	uced Matrix CS=C	Covered or Coated	Sand Grains.	<sup>2</sup> Location: F	PL=Pore Lining, M=N	Matrix.			
Hydric Soil Indicators: (A	pplicable to	all LRRs	, unless otherwi	se noted.)		Indicators fo	or Problematic Hyd	ric Soils <sup>3</sup> :			
Histosol (A1)			Sandy Redox	(S5)		2 cm Mu	ck (A10)				
Histic Epipedon (A2)		_	Stripped Matr	ix (S6)		Red Pare	ent Material (TF2)				
Black Histic (A3)		_	Loamy Mucky	Mineral (F1) (exc	cept MLRA 1)	Very Sha	llow Dark Surface (	ΓF12)			
Hydrogen Sulfide (A4)		_	Loamy Gleye	d Matrix (F2)		Other (Ex	xplain in Remarks)				
Depleted Below Dark S	Surface (A11)		Depleted Mat	rix (F3)		<u> </u>					
Thick Dark Surface (A	12)	_	Redox Dark S	Surface (F6)		<sup>3</sup> Indicators of	hydrophytic vegeta	tion and			
Sandy Mucky Mineral	(S1)	_	Depleted Dark	k Surface (F7)		wetland hy	drology must be pre	sent,			
Sandy Gleyed Matrix (	S4)	_	Redox Depres	ssions (F8)		unless dist	unless disturbed or problematic.				
Restrictive Layer (if prese	ent).	<u> </u>									
Type:	,.										
Depth (inches):					ļ.	lydric Soil Pres	sent? Ves	No X			
	C: -:  -: C	-l l				<u> </u>					
Remarks: S = sand; Shovel refusal at 11 inches		-		) = coarse, i = iirie	e, vi = very line	, + = neavy (mo	re clay); - = light (les	ss clay)			
HYDROLOGY											
Wetland Hydrology Indica	ators:										
Primary Indicators (minimu	m of one req	uired; che	eck all that apply)			<u>Secondary In</u>	ndicators (2 or more	required)			
Surface Water (A1)		_	Water-Stained	d Leaves (B9) (ex	cept MLRA	Water-St	ained Leaves (B9) (	MLRA 1, 2,			
High Water Table (A2)		_	1, 2, 4A, ar	nd 4B)		4A, an	nd 4B)				
Saturation (A3)		_	Salt Crust (B1	11)		Drainage	Patterns (B10)				
Water Marks (B1)		_	Aquatic Invert	tebrates (B13)		Dry-Seas	son Water Table (C2	2)			
Sediment Deposits (B2	2)	_	Hydrogen Sul	fide Odor (C1)		Saturatio	n Visible on Aerial Ir	magery (C9)			
Drift Deposits (B3)		_	Oxidized Rhiz	ospheres along L	iving Roots (C	3) Geomorp	phic Position (D2)				
Algal Mat or Crust (B4)	)	_	Presence of F	Reduced Iron (C4)		Shallow A	Aquitard (D3)				
Iron Deposits (B5)		_	Recent Iron R	Reduction in Tilled	Soils (C6)	FAC-Neu	ıtral Test (D5)				
Surface Soil Cracks (B	66)	_	Stunted or Str	ressed Plants (D1	) ( <b>LRR A</b> )	Raised A	ant Mounds (D6) ( <b>LR</b>	<b>R A</b> )			
Inundation Visible on A	Aerial Imagery	y (B7)	Other (Explain	n in Remarks)		Frost-He	ave Hummocks (D7)	)			
Sparsely Vegetated Co	oncave Surfa	ce (B8)									
Field Observations:											
Surface Water Present?	Yes		No X	Depth (inches):							
Water Table Present?	Yes		No X	Depth (inches):	11	Wetland	Hydrology Present	12			
Saturation Present?	Yes		No	Depth (inches):	surface	Wetland	Yes X	No			
(includes capillary fringe)	163			Deptil (iliches).	Surrace		ies_X				
Describe Recorded Data (	stream gauge	e, monito	ring well, aerial ph	notos, previous ins	spections), if a	vailable:					
Remarks: 0.5 inches of surface water	nresent with	in 16 incl	nes of sample plot	•			Entered by: MV	QC by:			
or carraco water	p. coont with		J. Jampio pioi	<del></del>							

Project/Site: Lookout Pass		City/County:	Mineral Cour	nty	Sampling Date: 6	3/23/2015
Applicant/Owner: USDA Forest Service		<u>.</u>	•	State: Montar	Sampling Po	oint: P4
Investigator(s): Matthew Vesh and Amanda	Christensen	Section, T	ownship, Rang	ge: 31, 20N, 32W		
Landform (hillslope, terrace, etc.): hillslope			Local relief	(concave, convex, none):	none Slo	ope (%): 10
Subregion (LRR): E, Rocky Mountain Forests	and Rangeland	Lat:	Lon	ıg:	Datum:	•
Soil Map Unit Name:				NWI cl	assification: Non	e
Are climatic / hydrologic conditions on the site	typical for this tim	e of year?	Υe			n in Remarks)
	, or Hydrology			Are "Normal Circumstand	-	
	_ , or Hydrology			(If needed, explain any a		
SUMMARY OF FINDINGS – Attach	-		point locat	lions, transects, in	nportant feati	ures, etc.
Hydrophytic Vegetation Present?	Yes		le the Comm	alad Avaa		
Hydric Soil Present?	Yes	No	Is the Samp	. Al 10		-
Wetland Hydrology Present?	Yes	No X			No_X	<u>`</u>
Precipitation prior to fieldwork: 0 inches tw Remarks:	o weeks prior, 82	% precipitation acc	cumulation of av	verage for water year.		
VEGETATION						
	Absolute	Dominant	Indicator	Dominance Test wo	rksheet:	
<u>Tree Stratum</u> (Plot size: <u>30' r</u> )	% Cover	Species?	<u>Status</u>	Number of Dominant	Species	
1. Abies grandis	80%	Yes	FACU	That Are OBL, FACW	V, or FAC:	0 (A)
<sup>2.</sup> Tsuga heterophylla	5%	No	FACU			
3.				Total Number of Dom	ninant	
4.	_			Species Across All S	trata:	3 (B)
	85%	= Total Cover				
Sapling/Shrub Stratum (Plot size: 10' r	)			Percent of Dominant	Species	
1. Menziesia ferruginea	40%	Yes	FACU	That Are OBL, FACW	V, or FAC:	<u>0%</u> (A/B)
2. Vaccinium membranaceum	1%	No	FACU	Prevalence Index w	orksheet:	
3.				Total % Cover o	of: Multiply by:	
4				OBL species 0	x 1 =	0
5				FACW species 0	) x 2 =	0
	41%	= Total Cover		FAC species 0	x 3 =	0
<u>Herb Stratum</u> (Plot size: <u>5' r</u> )				FACU species 12	26 x 4 =	504
Xerophyllum tenax	75%	Yes	FACU	UPL species 0	x 5 =	0
2. Osmorhiza berteroi	5%	No	FACU	Column Totals: 12	26 (A)	504 (B)
3				Prevalence Index	= B/A =	4.00
4				Hydrophytic Vegeta	tion Indicators:	
5				1 - Rapid Test for	r Hydrophytic Ve	getation
6.	_			2 - Dominance Te	est is >50%	
7				3 - Prevalence In	dex is ≤3.0 <sup>1</sup>	
8.	_			4 - Morphological	I Adaptations <sup>1</sup> (Pr	rovide supporting
9.	_			data in Remar	rks or on a separa	ate sheet)
10				5 - Wetland Non-	-Vascular Plants <sup>1</sup>	
11. <i>moss</i>	10%	No		Problematic Hydr	rophytic Vegetation	on¹ (Explain)
	90%	= Total Cover		<sup>1</sup> Indicators of hydric s	soil and wetland h	ydrology must
Woody Vine Stratum (Plot size: 10' r				be present.		
1.	_			Hydrophytic		
2	0%	= Total Cover		Hydrophytic Vegetation	Yes No	X
9/ Raro Ground in Harb Stratum 199/	<u>U%</u>	- Total Govel		Present?	.55110_	
% Bare Ground in Herb Stratum 10%						
Remarks:				Entered	l by: MV QC	Dy:

Profile Description	n: (Describe to	the depth n	needed to do	cument t	he indicator	or confirm th	e absence of in	dicators.)			
Depth	Matri	i <b>x</b>			Redox Fe	atures					
(inches)	Color (moist)	%	Color (m	ioist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks		
0-3.5	ОМ		<u>-</u>						<u> </u>		
3.5-5	10YR 2/2	100						SiL			
	<del></del> -		-						-		
<sup>1</sup> Type: C=Concentr	ration, D=Deplet	ion, RM=Rec	duced Matrix	CS=Cover	red or Coated	Sand Grains.	<sup>2</sup> Location: P	L=Pore Lining, M=Mat	trix.		
Hydric Soil Indicat	tors: (Applicabl	e to all LRR:	s, unless oth	nerwise n	oted.)		Indicators fo	r Problematic Hydric	Soils <sup>3</sup> :		
Histosol (A1)			Sandy P	Redox (S5)	)		2 cm Muc	k (A10)			
Histic Epipedor	n (A2)	•	Stripped	Matrix (Se	6)			nt Material (TF2)			
Black Histic (A		•			eral (F1) <b>(exc</b>	ept MLRA 1)		llow Dark Surface (TF	12)		
—— Hydrogen Sulfid		•	Loamy C	Gleyed Ma	trix (F2)			plain in Remarks)	,		
	v Dark Surface (	A11)		d Matrix (F				,			
Thick Dark Sur		, ·		ark Surfac			<sup>3</sup> Indicators of	hydrophytic vegetation	n and		
Sandy Mucky N		•		d Dark Sur			wetland hyd	Irology must be preser	nt,		
Sandy Gleyed I		•		epression			unless disturbed or problematic.				
				<u> </u>				<u> </u>			
Restrictive Layer (	ii preseiit).										
Type:							Uhadaia Oail Baas		NI-		
Depth (inches):							Hydric Soil Pres	-	_ No		
		C = clay; L =	loam or loan	1y; co = co	parse; f = fine:	; vf = very fine	; + = heavy (mor	re clay); - = light (less	clay)		
shovel refusal by co	Dobles										
HYDROLOGY											
Wetland Hydrology	y Indicators:										
Primary Indicators (	(minimum of one	required; ch	eck all that a	pply)			Secondary Inc	dicators (2 or more red	quired)		
Surface Water	(A1)		Water-S	tained Lea	aves (B9) <b>(exc</b>	cept MLRA	-	ained Leaves (B9) (ML	<del></del>		
High Water Tab		•		IA, and 4E		•	4A, and	, , ,	, ,		
Saturation (A3)			Salt Cru		-,		ŕ	Patterns (B10)			
Water Marks (E		•		Invertebra	ites (B13)			on Water Table (C2)			
Sediment Depo		•		n Sulfide (				n Visible on Aerial Ima	igery (C9)		
Drift Deposits (		•	· ·		` '	ving Roots (C		hic Position (D2)	gery (GG)		
Algal Mat or Cr	,	•		•	ced Iron (C4)	vilig Floots (O	· —	Aguitard (D3)			
Iron Deposits (		•			ction in Tilled :	Soils (C6)		tral Test (D5)			
Surface Soil Cr		•			ed Plants (D1)			nt Mounds (D6) ( <b>LRR</b> .	Δ)		
	ble on Aerial Ima			explain in F		(LIIII A)		. , ,	<b>n</b> )		
		• , , ,	Other (E	хріані ін г	nemarks)		FIOSI-FIE	ave Hummocks (D7)			
	tated Concave S	ипасе (ва)					<del></del>				
Field Observations	<b>s</b> :										
Surface Water Pres	sent? Yes		No X	De	pth (inches):						
Water Table Prese	ent? Yes		No X	De	pth (inches):	>5	Wetland	Hydrology Present?			
Saturation Present			No X	De	pth (inches):	>5		Yes	No X		
(includes capillary f	fringe)										
Describe Recorded	d Data (stream g	auge, monito	oring well, aer	rial photos	, previous ins	pections), if a	vailable:				
Remarks:								Entered by: MV C	QC by:		
nomano.							•	G			
•											

Project/Site: Lookout Pass Applicant/Owner: USDA Forest Service			Mineral Cour	ty Sampling Date: 6/24/20	
			•	State: Montar Sampling Point:	P5
Investigator(s): Matthew Vesh and Amanda	Christensen	Section, T	ownship. Rang	e: 31, 20N, 32W	
Landform (hillslope, terrace, etc.): hillslope		,		(concave, convex, none): none Slope (%	s): 10
Subregion (LRR): E, Rocky Mountain Forests	and Rangeland	Lat:	<del>_</del> Lon		
Soil Map Unit Name:			_	NWI classification: None	
Are climatic / hydrologic conditions on the site	typical for this tim	ne of year?	Ye		emarks)
	, or Hydrology	-		Are "Normal Circumstances" present? Yes	
Are Vegetation ,Soil	, or Hydrology	naturally pro	blematic? (	If needed, explain any answers in Remarks.)	
SUMMARY OF FINDINGS - Attach	site map sho	wing sampling	point locat	ions, transects, important features,	etc.
Hydrophytic Vegetation Present?	Yes X	No			
Hydric Soil Present?	Yes X	No	Is the Samp	led Area	
Wetland Hydrology Present?	Yes X	No	within a We	tland? Yes X No No	
Precipitation prior to fieldwork: 0 inches tw Remarks:	o weeks prior, 82	2% precipitation acc	umulation of av	rerage for water year.	
VEGETATION					
	Absolute	Dominant	Indicator	Dominance Test worksheet:	
<u>Tree Stratum</u> (Plot size: <u>30' r</u> )	% Cover	Species?	<u>Status</u>	Number of Dominant Species	
1				That Are OBL, FACW, or FAC: 2	(A)
2.					
3.	_			Total Number of Dominant	
4.				Species Across All Strata: 2	(B)
	0%	= Total Cover			<u> </u>
Sapling/Shrub Stratum (Plot size: 10' r		-		Percent of Dominant Species	
1. Alnus incana	75%	Yes	FACW	That Are OBL, FACW, or FAC: 100%	(A/B)
2. Sambucus racemosa	1%	No	FACU	Prevalence Index worksheet:	
3.				Total % Cover of: Multiply by:	
4.				OBL species 0 x 1 = 0	
5.				FACW species 80 x 2 = 16	0
	76%	= Total Cover		FAC species 90 x 3 = 27	0
Herb Stratum (Plot size: 5' r )	·	-		FACU species 1 x 4 = 4	
1. Athyrium angustum	75%	Yes	FAC	UPL species 0 x 5 = 0	)
2. Streptopus lanceolatus		No	FAC	Column Totals: 171 (A) 43	
3. Senecio triangularis		No No	FACW	Prevalence Index = B/A = 2.54	
Ligusticum canbyi	5%	No No	FAC	Hydrophytic Vegetation Indicators:	
5. Veratrum viride	5%	No	FAC	1 - Rapid Test for Hydrophytic Vegetatio	n
6.				X 2 - Dominance Test is >50%	
7.	_	· —		X 3 - Prevalence Index is ≤3.0 <sup>1</sup>	
8.	_			4 - Morphological Adaptations <sup>1</sup> (Provide	supporting
9.	_			data in Remarks or on a separate she	
10.	_			5 - Wetland Non-Vascular Plants <sup>1</sup>	
11.		<del></del>		Problematic Hydrophytic Vegetation <sup>1</sup> (Ex	(nlain)
	95%	= Total Cover		<sup>1</sup> Indicators of hydric soil and wetland hydrolo	
Woody Vine Stratum (Plot size: 10' r		- 10tal 00781		be present.	yy must
1.		_		P	
2.				Hydrophytic	
	0%	= Total Cover		Vegetation Yes X No	
% Bare Ground in Herb Stratum 5%				Present?	
Remarks:				Entered by: MV QC by:	

Profile Description:	(Describe to t	he depth n	eeded to docume	ent the indicator	or confirm the	absence of i	ndicators.)	
Depth Matrix Redox Features  (inches) Color (moist) 9/ Type <sup>1</sup> Loc <sup>2</sup> Toxture Por								
(inches) Col	lor (moist)	%	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-3 10	0YR 2/1	100					SiL	mucky
								·
								·
							. <u> </u>	<u> </u>
<sup>1</sup> Type: C=Concentration	on, D=Depletion	n, RM=Red	luced Matrix CS=C	Covered or Coated	d Sand Grains.	<sup>2</sup> Location:	PL=Pore Lining, M=N	Matrix.
Hydric Soil Indicators	s: (Applicable	to all LRRs	s, unless otherwi	se noted.)		Indicators f	for Problematic Hyd	ric Soils <sup>3</sup> :
Histosol (A1)			Sandy Redox	(S5)		2 cm Mu	uck (A10)	
Histic Epipedon (A	\2)		Stripped Matri				rent Material (TF2)	
Black Histic (A3)			X Loamy Mucky		cept MLRA 1)	Very Sh	allow Dark Surface (	ΓF12)
Hydrogen Sulfide	(A4)		Loamy Gleyed	d Matrix (F2)		Other (E	Explain in Remarks)	
Depleted Below D	ark Surface (A1	11)	Depleted Matr	rix (F3)		0		
Thick Dark Surfac	e (A12)		Redox Dark S	, ,		<sup>3</sup> Indicators o	of hydrophytic vegeta	tion and
Sandy Mucky Mine		-		k Surface (F7)		_	ydrology must be pre	
Sandy Gleyed Ma	trix (S4)		Redox Depres	ssions (F8)		unless dis	turbed or problemation	<b>&gt;</b> .
shovel and probe refus	sal at 3 inches	= clay; L =	loam or loamy; co	) = coarse; f = fine		ydric Soil Pre	esent? Yes X ore clay); - = light (les	No
Wetland Hydrology Ir								
Primary Indicators (min	nimum of one re	equired; ch				_ <u>Secondary I</u>	ndicators (2 or more	required)
Surface Water (A1		-		d Leaves (B9) (ex	cept MLRA		Stained Leaves (B9) (	MLRA 1, 2,
X High Water Table	(A2)		1, 2, 4A, ar			•	nd 4B)	
X Saturation (A3)		-	Salt Crust (B1				e Patterns (B10)	
Water Marks (B1)		-	<del></del> '	tebrates (B13)		Dry-Sea	son Water Table (C2	<u>'</u> .')
Sediment Deposit		-		lfide Odor (C1)			on Visible on Aerial I	magery (C9)
Drift Deposits (B3)	,	-		cospheres along L	= -		phic Position (D2)	
Algal Mat or Crust		-		Reduced Iron (C4)	,		Aquitard (D3)	
Iron Deposits (B5)				Reduction in Tilled	, ,		utral Test (D5)	
Surface Soil Crack			Stunted or Str	ressed Plants (D1	) ( <b>LRR A</b> )		Ant Mounds (D6) ( <b>LR</b>	,
Inundation Visible	on Aerial Imag	ery (B7)	Other (Explain	n in Remarks)		Frost-He	eave Hummocks (D7	)
Sparsely Vegetate	ed Concave Sur	face (B8)						
Field Observations:								
Surface Water Preser	nt? Yes		No X	Depth (inches):				
Water Table Present?	Yes_	Χ	No	Depth (inches):	3	Wetland	d Hydrology Presen	t?
Saturation Present? (includes capillary fring	yes	Х	No	Depth (inches):	surface		Yes X	No
Describe Recorded Da	ata (stream gau	uge, monito	ring well, aerial ph	notos, previous ins	spections), if av	ailable:		
Remarks:							Entered by: MV	QC by:
Surface water less tha	n 1 inch adjacn	et to samp	le plot.				Entered by: MV	_ QO by

Project/Site: Lo	ookout Pass		City/County:	Mineral Cour	nty	Sampling Dat	e: 6/24/20	15
Applicant/Owner:	USDA Forest Service		<u> </u>		State: Montar	Sampling	Point:	P6
Investigator(s):	Matthew Vesh and Amanda	Christensen	Section, T	ownship, Rang	je: 31, 20N, 32W			
Landform (hillslope,	terrace, etc.): hillslope		<u> </u>	Local relief	(concave, convex, none):	none	Slope (%)	: 10
Subregion (LRR):	E, Rocky Mountain Forests	and Rangeland	Lat:	Lon	ıg:	Datur	n:	•
Soil Map Unit Nam	ne:			_	NWI c	lassification: N	None	
Are climatic / hydr	ologic conditions on the site t	ypical for this time	of year?	Ye	es X No	(If no, ex	plain in Re	marks)
Are Vegetation	,Soil	_	significantly		Are "Normal Circumstan	ces" present?	Yes X	No
Are Vegetation	Soil	_, or Hydrology _	naturally pro		If needed, explain any a			
	F FINDINGS – Attach	•		point locat	ions, transects, in	nportant fe	atures,	etc.
Hydrophytic Vege		Yes <b>X</b>	No	la tha Camu	alad Avaa			
Hydric Soil Prese		Yes	No X	Is the Samp	Man dO			
Wetland Hydrolog		Yes	No X		165	No	<u>X</u>	
Precipitation prior Remarks:	to fieldwork: 0 inches two	o weeks prior, 82%	precipitation acc	eumulation of av	verage for water year.			
VEGETATION								
		Absolute	Dominant	Indicator	Dominance Test wo	orksheet:		
Tree Stratum	(Plot size: 30' r )	% Cover	Species?	<u>Status</u>	Number of Dominant	t Species		
<ol> <li>Picea engelm</li> <li>2.</li> </ol>	annii	50%	Yes	FAC	That Are OBL, FACV	N, or FAC:	4	_(A)
3.					Total Number of Dor	minant		
4.					Species Across All S		4	(B)
		50% =	Total Cover		Opeoles / toross / tire			<b>-</b> (B)
Sapling/Shrub Stra	atum (Plot size: 10' r		Total Gover		Percent of Dominant	t Species		
1. Alnus incana		— 40%	Yes	FACW	That Are OBL, FACV	•	100%	(A/B)
2.		40 /6	163	TAOW	Prevalence Index w			(A/D)
3.					Total % Cover of		oy:	
4.						0 x 1 =	0	
5.						50 x 2 =	100	
·		40% =	Total Cover			18 × 3 =	354	
Herb Stratum	(Plot size: 5' r )	40 /6	Total Cover			0 x 4 =	0	<u> </u>
Mertensia par	,	30%	Yes	FAC	l ' . —	15 x 5 =	75	<del></del>
Rudbeckia oc		30%	Yes	FAC		83 (A)	529	_
3. grammanoid s		15%	No	NOL	Prevalence Index	• • •	2.89	(-)
Epilobium cilia		10%	No	FACW	Hydrophytic Vegeta			
5. Veratrum virio		5%	No	FAC	1 - Rapid Test fo			1
Veracrum vinc     Athyrium ange		3%	No	FAC	X 2 - Dominance T		• ogotation	
7.	ustum		110	TAO	X 3 - Prevalence Ir			
8.					4 - Morphologica		(Provide s	unnorting
9.						arks or on a se		
10.					5 - Wetland Non-			J.,
11.					Problematic Hyd			olain)
····		93% =	Total Cover		<sup>1</sup> Indicators of hydric			
Woody Vine Stratu	um (Plot size: 10' r		- Total Gover		be present.	Jon and Welld	ia riyarolo(	jy must
1	<del></del>		_					
2.					Hydrophytic			
		0% =	Total Cover		Vegetation	Yes X	No	_
% Bare Ground in	Herb Stratum 7%				Present?			
Remarks:					Entered	d by: MV	QC by:	

5								
Depth	Matrix			Redox F		. 2	<u>.                                    </u>	
(inches) Color (r		%	Color (moist)	<u></u> %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-15 10YR		100	40) (D. E.(0.				SiL	trace sand
15-17 10YR		97	10YR 5/8	3	<u> </u>	M	SiL	trace sand
17-24 10YR	2/2	75	10YR 5/8	25	C	M	SiL	trace sand
ype: C=Concentration, [	D=Depletion	n, RM=Rec	luced Matrix CS=Co	vered or Coated	d Sand Grains.	<sup>2</sup> Location:	PL=Pore Lining, M=I	Matrix.
ydric Soil Indicators: (A	Applicable 1	to all LRR	s, unless otherwis	e noted.)		Indicators	for Problematic Hyd	lric Soils <sup>3</sup> :
Histosol (A1)			Sandy Redox (	S5)		2 cm Mi	uck (A10)	
Histic Epipedon (A2)		,	Stripped Matrix	(S6)		Red Par	rent Material (TF2)	
Black Histic (A3)		•	Loamy Mucky	Mineral (F1) (ex	cept MLRA 1)	Very Sh	allow Dark Surface (	TF12)
Hydrogen Sulfide (A4)		•	Loamy Gleyed	Matrix (F2)		Other (E	Explain in Remarks)	
Depleted Below Dark	Surface (A1	11)	Depleted Matri	x (F3)		2		
Thick Dark Surface (A	.12)	•	Redox Dark Su			<sup>3</sup> Indicators of	of hydrophytic vegeta	tion and
Sandy Mucky Mineral	(S1)	•	Depleted Dark	Surface (F7)		wetland h	ydrology must be pre	sent,
Sandy Gleyed Matrix (	(S4)		Redox Depress	sions (F8)		unless dis	turbed or problemation	C.
Type: Depth (inches):  demarks: S = sand;	Si = silt; C	= clay; L =	loam or loamy; co	= coarse; f = fine		lydric Soil Pre	esent? Yes ore clay); - = light (le	No X
Depth (inches):		= clay; L =	loam or loamy; co	= coarse; f = fine			-	
Depth (inches):  emarks: S = sand;  IYDROLOGY  /etland Hydrology Indic	ators:			= coarse; f = fine		; + = heavy (m	-	ss clay)
Depth (inches):  emarks: S = sand;  IYDROLOGY  /etland Hydrology Indic	ators:		eck all that apply)	= coarse; f = fine	e; vf = very fine	; + = heavy (m	ore clay); - = light (le	ss clay)
Depth (inches):  emarks: S = sand;  IYDROLOGY /etland Hydrology Indic rimary Indicators (minimum	ators: um of one re		eck all that apply)	Leaves (B9) (ex	e; vf = very fine	; + = heavy (m  Secondary   Water-S	ore clay); - = light (le	ss clay)
Depth (inches):  Semarks: S = sand;  IYDROLOGY  Vetland Hydrology Indic rimary Indicators (minimum Surface Water (A1)	ators: um of one re		eck all that apply)Water-Stained	Leaves (B9) <b>(ex</b> d <b>4B)</b>	e; vf = very fine	; + = heavy (m — <u>Secondary  </u> — Water-S 4A, a	ore clay); - = light (le	ss clay)
Depth (inches):  emarks: S = sand;  IYDROLOGY /etland Hydrology Indic rimary Indicators (minimus Surface Water (A1) High Water Table (A2)	ators: um of one re		eck all that apply)  Water-Stained  1, 2, 4A, and	Leaves (B9) <b>(ex</b> d <b>4B)</b>	e; vf = very fine	; + = heavy (m  Secondary I  Water-S  4A, a  Drainag  Dry-Sea	ndicators (2 or more Stained Leaves (B9) (and 4B) e Patterns (B10) son Water Table (C2)	required) MLRA 1, 2,
Depth (inches):  demarks: S = sand;  IYDROLOGY  /etland Hydrology Indic rimary Indicators (minimus Surface Water (A1) High Water Table (A2) Saturation (A3)	ators: um of one re		eck all that apply)  Water-Stained  1, 2, 4A, and Salt Crust (B11	Leaves (B9) <b>(ex</b> d <b>4B)</b> l) ebrates (B13)	e; vf = very fine	; + = heavy (m  Secondary I  Water-S  4A, a  Drainag  Dry-Sea	ndicators (2 or more Stained Leaves (B9) (nd 4B) e Patterns (B10)	required) MLRA 1, 2,
Depth (inches):  emarks: S = sand;  IYDROLOGY  /etland Hydrology Indic rimary Indicators (minimu  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)	ators: um of one re		eck all that apply)  Water-Stained  1, 2, 4A, and Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi	Leaves (B9) <b>(ex</b> d <b>4B)</b> l) ebrates (B13)	e; vf = very fine	+ = heavy (m  Secondary   Water-S  4A, a Drainag Dry-Sea Saturati	ndicators (2 or more Stained Leaves (B9) (and 4B) e Patterns (B10) son Water Table (C2)	required) MLRA 1, 2,
Depth (inches):  IMPOLOGY  Vetland Hydrology Indic rimary Indicators (minimu  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B3)  Algal Mat or Crust (B4)	ators: um of one re		eck all that apply)  Water-Stained  1, 2, 4A, and Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo	Leaves (B9) (exd 4B)  I)  brates (B13) de Odor (C1)	e; vf = very fine	Secondary    Secondary    Water-S  4A, a  Drainag  Dry-Sea  Saturati  Geomore	ndicators (2 or more Stained Leaves (B9) (and 4B) e Patterns (B10) uson Water Table (C2) on Visible on Aerial I	required) MLRA 1, 2,
Depth (inches):  Idemarks: S = sand;  Idemarks: Idenarks: Idenark	ators: um of one re ) 2)		eck all that apply)  Water-Stained  1, 2, 4A, and Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Re Recent Iron Re	Leaves (B9) (exd 4B)  I)  Ebrates (B13)  de Odor (C1)  Espheres along Leduced Iron (C4)  Eduction in Tilled	e; vf = very fine  ccept MLRA  Living Roots (C3)  I Soils (C6)	Secondary   Water-S 4A, a Drainag Dry-Sea Saturati Geomor Shallow X FAC-Ne	ore clay); - = light (le	required) MLRA 1, 2,  magery (C9)
Depth (inches):  Image: Semarks: S = sand;  IYDROLOGY  Vetland Hydrology Indication (incompany Indicators (inc	ators: um of one re ) 2)		eck all that apply)  Water-Stained  1, 2, 4A, and Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre	Leaves (B9) (exd 4B)  I)  bbrates (B13)  de Odor (C1)  bspheres along Leduced Iron (C4)  eduction in Tilled  essed Plants (D1	e; vf = very fine  ccept MLRA  Living Roots (C3)  I Soils (C6)	Secondary    Secondary    Water-S  4A, a  Drainag  Dry-Sea  Saturati  Geomor  Shallow  X FAC-Ne  Raised	ndicators (2 or more Stained Leaves (B9) (and 4B) e Patterns (B10) uson Water Table (C2) on Visible on Aerial I rephic Position (D2) Aquitard (D3) utral Test (D5) Ant Mounds (D6) (LF	required) MLRA 1, 2, magery (C9)
Depth (inches):  Image: Semarks: S = sand;  Incomplete Semarks	ators: um of one re  2)	equired; ch	eck all that apply)  Water-Stained  1, 2, 4A, and Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Re Recent Iron Re	Leaves (B9) (exd 4B)  I)  bbrates (B13)  de Odor (C1)  bspheres along Leduced Iron (C4)  eduction in Tilled  essed Plants (D1	e; vf = very fine  ccept MLRA  Living Roots (C3)  I Soils (C6)	Secondary    Secondary    Water-S  4A, a  Drainag  Dry-Sea  Saturati  Geomor  Shallow  X FAC-Ne  Raised	ore clay); - = light (le	required) MLRA 1, 2, magery (C9)
Depth (inches):  IMPOROLOGY  Vetland Hydrology Indic rimary Indicators (minimulators Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (E	ators: um of one re  2) 2) Aerial Imag	equired; ch	eck all that apply)  Water-Stained  1, 2, 4A, and Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre	Leaves (B9) (exd 4B)  I)  bbrates (B13)  de Odor (C1)  bspheres along Leduced Iron (C4)  eduction in Tilled  essed Plants (D1	e; vf = very fine  ccept MLRA  Living Roots (C3)  I Soils (C6)	Secondary    Secondary    Water-S  4A, a  Drainag  Dry-Sea  Saturati  Geomor  Shallow  X FAC-Ne  Raised	ndicators (2 or more Stained Leaves (B9) (and 4B) e Patterns (B10) uson Water Table (C2) on Visible on Aerial I rephic Position (D2) Aquitard (D3) utral Test (D5) Ant Mounds (D6) (LF	required) MLRA 1, 2, magery (C9)
Depth (inches):  Image: S = sand;  IYDROLOGY  /etland Hydrology Indication (minimum of the context of the conte	ators: um of one re  2) 2) Aerial Imag	equired; ch	eck all that apply)  Water-Stained  1, 2, 4A, and Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre	Leaves (B9) (exd 4B)  I)  bbrates (B13)  de Odor (C1)  bspheres along Leduced Iron (C4)  eduction in Tilled  essed Plants (D1	e; vf = very fine  ccept MLRA  Living Roots (C3)  I Soils (C6)	Secondary    Secondary    Water-S  4A, a  Drainag  Dry-Sea  Saturati  Geomor  Shallow  X FAC-Ne  Raised	ndicators (2 or more Stained Leaves (B9) (and 4B) e Patterns (B10) uson Water Table (C2) on Visible on Aerial I rephic Position (D2) Aquitard (D3) utral Test (D5) Ant Mounds (D6) (LF	required) MLRA 1, 2, magery (C9)
Depth (inches):  Image: Semarks: S = sand;  IYDROLOGY  Vetland Hydrology Indicators (minimumary Indicators (Minimu	ators: um of one re  2) 2) Aerial Imag	equired; ch	eck all that apply)  Water-Stained  1, 2, 4A, and Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre	Leaves (B9) (exd 4B)  I)  bbrates (B13)  de Odor (C1)  bspheres along Leduced Iron (C4)  eduction in Tilled  essed Plants (D1	e; vf = very fine  ccept MLRA  Living Roots (C3)  I Soils (C6)  I) (LRR A)	Secondary    Secondary    Water-S  4A, a  Drainag  Dry-Sea  Saturati  Geomor  Shallow  X FAC-Ne  Raised	ndicators (2 or more Stained Leaves (B9) (and 4B) e Patterns (B10) uson Water Table (C2) on Visible on Aerial I rephic Position (D2) Aquitard (D3) utral Test (D5) Ant Mounds (D6) (LF	required) MLRA 1, 2, magery (C9)
Depth (inches):  Idemarks: S = sand;  Idenarks: Idenar	ators: um of one re ) 2) Aerial Imag oncave Sur	equired; ch	eck all that apply)  Water-Stained  1, 2, 4A, and Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain	Leaves (B9) (exect depth (B13))  Debrates (B13)  Debrates (B13)  Debrates along Leaduced Iron (C4)  Deduction in Tilled Dessed Plants (D1)  In Remarks)	e; vf = very fine  ccept MLRA  Living Roots (CC)  I Soils (C6)  I) (LRR A)	Secondary   Water-S 4A, a Drainag Dry-Sea Saturati Geomol Shallow X FAC-Ne Raised Frost-Ho	ndicators (2 or more Stained Leaves (B9) (and 4B) e Patterns (B10) uson Water Table (C2) on Visible on Aerial I rephic Position (D2) Aquitard (D3) utral Test (D5) Ant Mounds (D6) (LF	required) MLRA 1, 2,  magery (C9)
Depth (inches):  Idemarks: S = sand;  Idemarks: Surface Water (A1)  Idemarks: Saturation (A3)  Idemarks: S = sand;  Idenarks: S = sand;	ators: um of one re  2) Aerial Imag oncave Sur	equired; ch	eck all that apply)  Water-Stained  1, 2, 4A, and Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain	Leaves (B9) (exd 4B)  I)  Berates (B13)  de Odor (C1)  Despheres along Leduced Iron (C4)  Eduction in Tilled essed Plants (D1)  in Remarks)  Depth (inches):	e; vf = very fine  ccept MLRA  Living Roots (C3) I Soils (C6) I) (LRR A)	Secondary   Water-S 4A, a Drainag Dry-Sea Saturati Geomol Shallow X FAC-Ne Raised Frost-Ho	ndicators (2 or more Stained Leaves (B9) (and 4B) e Patterns (B10) ason Water Table (C2) on Visible on Aerial I rephic Position (D2) Aquitard (D3) autral Test (D5) Ant Mounds (D6) (LF) eave Hummocks (D7)	required) MLRA 1, 2,  magery (C9)
Depth (inches):  Idemarks: S = sand;  IYDROLOGY  Vetland Hydrology Indic  Irimary Indicators (minimulation)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Water Marks (B1)  Sediment Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B1)  Surface Soil Cracks (B1)  Sparsely Vegetated Coield Observations:  Surface Water Present?  Water Table Present?	ators: um of one re  2)  Aerial Imag oncave Sur  Yes Yes Yes Yes	equired; ch	eck all that apply)  Water-Stained  1, 2, 4A, and Salt Crust (B11 Aquatic Inverte Hydrogen Sulfi Oxidized Rhizo Presence of Re Recent Iron Re Stunted or Stre Other (Explain  No X  No X  No X  No X	Leaves (B9) (exel 4B)  brates (B13) de Odor (C1) expheres along Leduced Iron (C4) eduction in Tilled essed Plants (D1 in Remarks)  Depth (inches): Depth (inches):	e; vf = very fine  ccept MLRA  Living Roots (C3) I Soils (C6) I) (LRR A)	Secondary   Water-S 4A, a Drainag Dry-Sea Saturati B) Geomoi Shallow X FAC-Ne Raised Frost-He	ore clay); - = light (le	required) MLRA 1, 2,  2) magery (C9)  RR A)

Project/Site: Lookout Pass		City/County:	Shoshone Co	ounty Sampling	Date: 6/25/2015
Applicant/Owner: USDA Forest Service					oling Point: <b>P7</b>
Investigator(s): Matthew Vesh and Amanda	Christensen	Section, T	ownship, Rand	 je: 5, 48N, 32W	
Landform (hillslope, terrace, etc.): hillslope			-	(concave, convex, none): convex	Slope (%): 25
Subregion (LRR): E, Rocky Mountain Forests	and Rangeland	Lat:	 Lon	.g:	atum:
Soil Map Unit Name:				NWI classification	on: None
Are climatic / hydrologic conditions on the site ty	ypical for this tim	ne of year?	Ye	es X No (If no	o, explain in Remarks)
Are Vegetation,Soil	, or Hydrology	significantly	disturbed?	Are "Normal Circumstances" prese	ent? Yes X No
Are Vegetation,Soil	, or Hydrology	naturally pro	blematic? (	If needed, explain any answers in	Remarks.)
SUMMARY OF FINDINGS – Attach s	site map sho	wing sampling	point locat	ions, transects, importan	t features, etc.
Hydrophytic Vegetation Present?	Yes X	No			
Hydric Soil Present?	Yes X	No	Is the Samp		
Wetland Hydrology Present?	Yes X	No	within a We	etland? Yes X N	No
Precipitation prior to fieldwork: 0 inches two Remarks:	o weeks prior, 82	2% precipitation acc	cumulation of av	verage for water year.	
VEGETATION					
Tree Streetum (Diet siese 201 m.)	Absolute	Dominant	Indicator	Dominance Test worksheet:	
Tree Stratum (Plot size: 30' r )	% Cover	Species?	<u>Status</u>	Number of Dominant Species	
1.	_			That Are OBL, FACW, or FAC	: <u>1</u> (A)
2.	_				
3.	_			Total Number of Dominant	
4	_			Species Across All Strata:	(B)
Conding / Charles Charles (Distriction 40)	0%	= Total Cover			
Sapling/Shrub Stratum (Plot size: 10' r	_)			Percent of Dominant Species	
1. Menziesia ferruginea	20%	Yes	FACU	That Are OBL, FACW, or FAC	: <u>50%</u> (A/B)
2.				Prevalence Index worksheet	
3				Total % Cover of: Multi	ply by:
4	_			OBL species 0 x 1 =	
5		<u> </u>		FACW species 0 x 2 =	
(5)	20%	= Total Cover		FAC species 62 x 3 =	
Herb Stratum (Plot size: 5' r )				FACU species 20 x 4 =	
Claytonia sibirica	35%	Yes	FAC	UPL species 10 x 5 =	
2. Gymnocarpium dryopteris	15%	<u>No</u>	FAC	Column Totals: 92 (A)	316 (B)
3. <u>unidentified forb</u>	10%	<u>No</u>	NOL	Prevalence Index = B/A =	3.43
4. Athyrium angustum	7%	<u>No</u>	FAC	Hydrophytic Vegetation Indic	
5. Pectiantia breweri	5%	<u>No</u>	FAC	1 - Rapid Test for Hydroph	-
6.	_			2 - Dominance Test is >50	
7				3 - Prevalence Index is ≤3.	
8.	_			4 - Morphological Adaptation	
9.				data in Remarks or on a	
10				5 - Wetland Non-Vascular	
11.				Problematic Hydrophytic V	
Woody Vine Stratum (Plot size: 10' r		= Total Cover		<sup>1</sup> Indicators of hydric soil and w be present.	etland hydrology must
1.				55 p. 555/m	
2.				Hydrophytic	
	0%	= Total Cover		Vegetation Yes X	No
% Bare Ground in Herb Stratum 28%				Present?	
Remarks:				Entered by: MV	QC by:

Profile Description: (Desc	ribe to the depth	needed to documen	t the indicator	or confirm the	absence of i	ndicators.)	
Depth	Matrix		Redox Fe	atures			
(inches) Color (mo	oist) %	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-5 10YR 2	2/1 100					SiL	mucky
							-
	<u> </u>						
						. <u> </u>	
<sup>1</sup> Type: C=Concentration, D=	-Depletion, RM=Re	educed Matrix CS=Cov	vered or Coated	Sand Grains.	<sup>2</sup> Location:	PL=Pore Lining, M=I	Matrix.
Hydric Soil Indicators: (Ap	plicable to all LR	Rs, unless otherwise	noted.)		Indicators f	for Problematic Hyd	lric Soils <sup>3</sup> :
Histosol (A1)		Sandy Redox (S	35)		2 cm Mı	uck (A10)	
Histic Epipedon (A2)		Stripped Matrix				rent Material (TF2)	
Black Histic (A3)		X Loamy Mucky M		ept MLRA 1)	Very Sh	allow Dark Surface (	TF12)
Hydrogen Sulfide (A4)		Loamy Gleyed N	Vatrix (F2)		Other (E	Explain in Remarks)	
Depleted Below Dark Su	urface (A11)	Depleted Matrix	(F3)		2		
Thick Dark Surface (A12		Redox Dark Sur				of hydrophytic vegeta	
Sandy Mucky Mineral (S		Depleted Dark S			-	ydrology must be pre	
Sandy Gleyed Matrix (S	4)	Redox Depressi	ions (F8)		unless dis	turbed or problemation	C.
Depth (inches):  Remarks: S = sand; S Shovel refusal by cobbles  HYDROLOGY  Wetland Hydrology Indicat	•	= loam or loamy; co =	coarse; f = fine		ydric Soil Pre		
Primary Indicators (minimum	n of one required; of	check all that apply)			_ <u>Secondary I</u>	ndicators (2 or more	required)
Surface Water (A1)		Water-Stained L	_eaves (B9) (ex	cept MLRA	Water-S	Stained Leaves (B9) (	MLRA 1, 2,
High Water Table (A2)		1, 2, 4A, and	4B)		4A, a	nd 4B)	
X Saturation (A3)		Salt Crust (B11)	)		X Drainage	e Patterns (B10)	
Water Marks (B1)		Aquatic Inverteb	orates (B13)		Dry-Sea	son Water Table (C2	2)
Sediment Deposits (B2)		Hydrogen Sulfid	le Odor (C1)		Saturation	on Visible on Aerial I	magery (C9)
Drift Deposits (B3)		Oxidized Rhizos	spheres along Li	ving Roots (C3	3) Geomor	phic Position (D2)	
Algal Mat or Crust (B4)		Presence of Rec	duced Iron (C4)		Shallow	Aquitard (D3)	
Iron Deposits (B5)		Recent Iron Rec	duction in Tilled	Soils (C6)	FAC-Ne	utral Test (D5)	
Surface Soil Cracks (B6	6)	Stunted or Stres	ssed Plants (D1)	) (LRR A)	Raised /	Ant Mounds (D6) ( <b>LF</b>	RR A)
Inundation Visible on Ae	erial Imagery (B7)	Other (Explain in	n Remarks)		Frost-He	eave Hummocks (D7	")
Sparsely Vegetated Cor	ncave Surface (B8)	)					
Field Observations:							
Surface Water Present?	Yes	No X [	Depth (inches):				
Water Table Present?	Yes		Depth (inches):	>5	Wetland	d Hydrology Presen	it?
Saturation Present? (includes capillary fringe)	Yes X		Depth (inches):	surface		Yes X	No
Describe Recorded Data (st	tream gauge, mon	itoring well, aerial phot	tos, previous ins	pections), if av	ailable:		
Remarks:						Entered by: MV	_ QC by:

Project/Site: Lookout Pass		City/County:	Shoshone Co	ounty	Sampling Da	te: 6/25/201	15
Applicant/Owner: USDA Forest Service				State: Idaho	Samplin	g Point:	P8
Investigator(s): Matthew Vesh and Amanda	a Christensen	Section, T	ownship, Rang	ge: 5, 48N, 32W			
Landform (hillslope, terrace, etc.): hillslope			Local relief	(concave, convex, none):	none	Slope (%):	: 25
Subregion (LRR): E, Rocky Mountain Forests	and Rangeland	Lat:	Lon	ıg:	Datu	m:	
Soil Map Unit Name:			_	NWI	classification:	None	
Are climatic / hydrologic conditions on the site	typical for this time	e of year?	Υe	es X No	(If no, e	xplain in Rer	marks)
	, or Hydrology			Are "Normal Circumstar	nces" present?	? Yes X	No
Are Vegetation ,Soil	, or Hydrology			(If needed, explain any a			
SUMMARY OF FINDINGS – Attach			point locat	tions, transects, i	mportant fo	eatures, e	etc.
Hydrophytic Vegetation Present?	Yes	No <b>X</b>	1- 4- 0	alad Amar			
Hydric Soil Present?	Yes	No X	Is the Samp				
Wetland Hydrology Present?	Yes	No <u>X</u>	within a We	1es	No	<u> </u>	
Remarks:	vo weeks prior, 82	% precipitation acc	umulation of av	verage for water year.			
VEGETATION							
True Obstance (Discourse	Absolute	Dominant	Indicator	Dominance Test w			
Tree Stratum (Plot size: 30' r )	% Cover	Species?	<u>Status</u>	Number of Dominan	ıt Species		
1. Tsuga mertensiana	15%	Yes	FACU	That Are OBL, FAC	W, or FAC:	1	(A)
2. Picea engelmannii	15%	Yes	FAC				
3. Abies grandis	15%	Yes	FACU	Total Number of Do	minant		
4				Species Across All S	Strata:	6	(B)
		= Total Cover					
Sapling/Shrub Stratum (Plot size: 10'	<u>r</u> )			Percent of Dominan	t Species		
1. Menziesia ferruginea	7%	Yes	FACU	That Are OBL, FAC	W, or FAC:	<u>17%</u>	(A/B)
2. Abies grandis	5%	Yes	FACU	Prevalence Index v			
3. <u>Tsuga mertensiana</u>	5%	Yes	FACU	Total % Cover	of: Multiply	by:	
4					0 x 1 =	0	
5					0 x 2 =	0	
(5)	17%	= Total Cover		· · · · —	18 x 3 =	54	
Herb Stratum (Plot size: 5' r )					33 x 4 =	132	
1. Xerophyllum tenax	1%	No	FACU		0 x 5 =	0	
2. Pectiantia breweri	1%	No	FAC		51 (A)	186	(B)
3. <u>Arnica latifolia</u>	1%	No	FAC	Prevalence Index		<u>3.65</u>	
4. Gymnocarpium dryopteris	1%	No	FAC	Hydrophytic Vegeta			
5				1 - Rapid Test fo		: Vegetation	
6.				2 - Dominance			
7				3 - Prevalence I			
8				4 - Morphologica			
9					arks or on a se		∍t)
10.				5 - Wetland Nor			
11				Problematic Hyd			
Woody Vine Stratum (Plot size: 10'		= Total Cover		<sup>1</sup> Indicators of hydric be present.	soil and wetla	and hydrolog	y must
1. 2.				Hydrophytic			
	0%	= Total Cover		Vegetation	Yes	No X	
% Bare Ground in Herb Stratum 96%				Present?			-
Remarks:				Entere	d by: MV	QC by:	
					·, <u>··</u>	, , - <u></u>	

Profile Descript	ion: (Describe	to the depth	needed to docur	nent the indicato	or or confirm th	he absence of i	ndicators.)	
Depth	Ma	atrix		Redox	Features			
(inches)	Color (moist)	%	Color (moist	%	Type <sup>1</sup>	Loc²	Texture	Remarks
0-20	10YR 3/4	100					SiL	
20-26	10YR 4/6	100					Si	
<sup>1</sup> Type: C=Concer	ntration, D=Dep	letion, RM=Re	duced Matrix CS=	Covered or Coate	ed Sand Grains	Location:	PL=Pore Lining, M=M	latrix.
Hydric Soil Indic	ators: (Applica	able to all LRF	Rs, unless otherv	vise noted.)		Indicators for	or Problematic Hydr	ic Soils³:
Histosol (A1)			Sandy Redo	ox (S5)		2 cm Mu	ck (A10)	
Histic Epiped	lon (A2)		Stripped Ma	trix (S6)		Red Par	ent Material (TF2)	
Black Histic (	A3)		Loamy Muc	ky Mineral (F1) <b>(e</b>	xcept MLRA 1)	Very Sha	allow Dark Surface (T	F12)
Hydrogen Su	Ifide (A4)		Loamy Gley	ed Matrix (F2)		Other (E	xplain in Remarks)	
Depleted Bel	ow Dark Surfac	e (A11)	Depleted Ma	atrix (F3)				
Thick Dark S	urface (A12)		Redox Dark	Surface (F6)		<sup>3</sup> Indicators o	f hydrophytic vegetati	on and
Sandy Mucky	Mineral (S1)		Depleted Da	ark Surface (F7)		wetland hy	drology must be pres	ent,
Sandy Gleye	d Matrix (S4)		Redox Depr	essions (F8)		unless dist	urbed or problematic.	
Restrictive Layer	r (if present):							
Type:	( p,							
Depth (inches):						Hydric Soil Pres	sent? Yes	No X
		lt: C = clay: L .	- loam or loamy:	co – coarce: f – fir			ore clay); - = light (less	
ricinario.	) = 3ana, 01 = 3i	it, 0 = 0iay, L	- loant of loanty,	50 = coarse, r = m	io, vi – vory iiii	c, + = neavy (me	ore ciay), = light (less	3 Clay)
HYDROLOGY								
Wetland Hydrolo								
Primary Indicators	s (minimum of c	ne required; c	heck all that apply	<u>')</u>		Secondary Ir	ndicators (2 or more r	<u>equired)</u>
Surface Wate	er (A1)		Water-Stain	ed Leaves (B9) (e	except MLRA	Water-S	tained Leaves (B9) (N	/ILRA 1, 2,
High Water T	able (A2)		1, 2, 4A,	and 4B)		4A, ar	nd 4B)	
Saturation (A	3)		Salt Crust (I	311)		Drainage	e Patterns (B10)	
Water Marks	(B1)		Aquatic Inve	ertebrates (B13)		Dry-Seas	son Water Table (C2)	
Sediment De	posits (B2)		Hydrogen S	ulfide Odor (C1)		Saturation	on Visible on Aerial Im	nagery (C9)
Drift Deposits	s (B3)		Oxidized Rh	izospheres along	Living Roots (C	C3) Geomor	ohic Position (D2)	
Algal Mat or	Crust (B4)		Presence of	Reduced Iron (C-	4)	Shallow	Aquitard (D3)	
Iron Deposits	(B5)		Recent Iron	Reduction in Tille	ed Soils (C6)	FAC-Net	utral Test (D5)	
Surface Soil	Cracks (B6)		Stunted or S	Stressed Plants (D	01) ( <b>LRR A</b> )	Raised A	Ant Mounds (D6) (LRF	<b>R A</b> )
Inundation Vi	sible on Aerial I	magery (B7)	Other (Expla	ain in Remarks)		Frost-He	ave Hummocks (D7)	
Sparsely Veg	etated Concave	e Surface (B8)						
Field Observatio	ns:							
Surface Water P	resent? Ye	es	No X	Depth (inches)	):			
Water Table Pres	sent? Ye	es	No X	Depth (inches)	):	Wetland	Hydrology Present	?
Saturation Prese	nt? Ye	es X	No	Depth (inches)			Yes	No X
(includes capillar								
Describe Record	ed Data (strean	n gauge, monit	oring well, aerial	ohotos, previous i	nspections), if a	available:		
Remarks:							Entered by: MV	QC by:
nemans.							Entered by. IVIV	QO Dy

_	okout Pass		City/County:	Mineral Cour	nty S	ampiing Da	ate: 6/26/20	15
Applicant/Owner:	USDA Forest Service				State: Montar	Samplin	g Point:	P9
Investigator(s):	Matthew Vesh and Amano	la Christensen	Section, T	ownship, Rang	je: 4, 48N, 32W			
Landform (hillslope,	terrace, etc.): hillslope			Local relief	(concave, convex, none):	none	Slope (%)	: 20
Subregion (LRR):	E, Rocky Mountain Forest	s and Rangeland	Lat:	Lon	ng:	Datu	ım:	
Soil Map Unit Nam	e:		'	_	NWI cla	ssification:	None	
Are climatic / hydro	ologic conditions on the site	typical for this time	of year?	Ye	es X No	(If no, e	xplain in Re	marks)
Are Vegetation	,Soil	_	significantly		Are "Normal Circumstance	•		No
Are Vegetation	,Soil	, or Hydrology	naturally pro	,	If needed, explain any an		•	
	FINDINGS – Attach	· · · · · · · · · · · · · · · · · · ·	ing sampling	point locat	tions, transects, im	portant f	eatures,	etc.
Hydrophytic Veget		Yes X	No	la de Camana	alad Assa			
Hydric Soil Presen		Yes X	No	Is the Samp				
Wetland Hydrology		Yes <b>X</b>	No	within a We		No		
Precipitation prior to Remarks:	o fieldwork: 0 inches t	wo weeks prior, 82%	6 precipitation acc	cumulation of av	verage for water year.			
VEGETATION					1			
T 0: .		Absolute	Dominant	Indicator	Dominance Test wor			
	(Plot size: <u>30' r</u> )	% Cover	Species?	<u>Status</u>	Number of Dominant	Species		
1.					That Are OBL, FACW	, or FAC:	4	_ (A)
2.								
3.					Total Number of Domi	nant		
4.					Species Across All Str	ata:	6	_ (B)
			Total Cover					
Sapling/Shrub Stra	tum (Plot size: 10'	<u>r</u> _)			Percent of Dominant S	Species		
1. Alnus viridis		80%	Yes	FACW	That Are OBL, FACW	, or FAC:	<u>67%</u>	(A/B)
2.					Prevalence Index wo			
3.					Total % Cover of	: Multiply	by:	<del></del>
4					OBL species 0	x 1 =	0	
5.					FACW species 86	x 2 =	172	2
		80% =	Total Cover		FAC species 45	x 3 =	135	5
Herb Stratum	(Plot size: <u>5' r</u> )				FACU species 10	x 4 =	40	
1. Athyrium angu	stum	10%	Yes	FAC	UPL species 15	x 5 =	75	
2. Mertensia pan	iculata	10%	Yes	FAC	Column Totals: 156		422	<u>2</u> (B)
3. Asarum cauda	itum	10%	Yes	FACU	Prevalence Index		<u>2.71</u>	
4. Veratrum viride	e	10%	Yes	FAC	Hydrophytic Vegetat			
5. Sphagnum spe	ecies	10%	Yes	NOL	1 - Rapid Test for		c Vegetation	1
6. Impatiens spec	cies	5%	No	FACW	X 2 - Dominance Te			
7. Claytonia sibiri	ica	5%	No	FAC	X 3 - Prevalence Inc			
8. Ranunculus ur	ncinatus	5%	No	FAC	4 - Morphological	-		
9. <i>Maianthemum</i>	stellatum	5%	No	FAC	data in Remark	s or on a s	eparate she	et)
10. Viola sempervi	irens	5%	No	NOL	5 - Wetland Non-\	ascular Pla	ants <sup>1</sup>	
11. Epilobium cilia	tum	1%	No	FACW	Problematic Hydro	phytic Veg	etation <sup>1</sup> (Ex	plain)
	/DI-1 ' ' '		Total Cover		<sup>1</sup> Indicators of hydric so	oil and wetla	and hydrolog	gy must
Woody Vine Stratu	<u>m</u> (Plot size: <u>10'</u>	<u>r</u> )			be present.			
1. 2.					Hydrophytic			
<b>_</b>		0% =	Total Cover			es X	No	
			- I Jiai Jovei		Present?			_
% Bare Ground in I	Herb Stratum 24%	<u>'</u>			Present/			

Shovel refusal at 14 inches by cobbles	Profile Descriptio	n: (Describe to	o the depth	needed to docu	ment the indicator	or confirm the	e absence of i	ndicators.)	
O-14 10YR 2/1 1000 SiL mucky  Type: C-Concentration, D-Depletion, RM-Reduced Matrix CS-Covered or Coated Sand Grains  "Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosci (A1) Sandy Redox (S5) Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosci (A1) Sandy Redox (S5) Pac Problematic Hydric Soils*:  Histosci (A2) Stripped Matrix (S8) Red Parent Matrial (TF2)  Black Histic (A3) X Loamy Mucky Mineral (F1) (except MLRA 1) Vey Shalow Dark Surface (TF2)  Other (Explain in Remarks)  Depleted Belov Dark Surface (A11) Depleted Matrix (F2)  Depleted Belov Dark Surface (A12) Redox Dark Surface (F6)  Sandy Mucky Mineral (S1) Depleted Dark Surface (F6)  Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic.  Restrictive Layer (if present):  Type:  Depth (inches):  Permarks: S = sand; SI = sitt; C = clay; L = loam or loamy; co = coarse; I = line; vI = very line; + = heavy (more clay); - = light (less clay)  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that septy)  Surface Water (A1) Water-Stained Leaves (B9) (except MLRA 1) Water-Stained Leaves (B9) (MIRA 1, 2, 44, and 4B)  X Saturation (A3) Salt Crust (B1) Aquatic Invertebrates (B13) Drainage Patterns (B10)  Defininge Sell Crust (B4) Presence of Reduced Iron (C4) Sell-uning Roads (B3) FAC-Neutral Test (C5)  Surface Water (B1) Recent Imagery (C9)  Surface Soil Cracks (B8) Recent Iron Reduction in Tilled Soils (C6) Saturation Visible on Aerial Imagery (C9)  Surface Soil Cracks (B8) Surface (B8) Surfa									
Type: C-Concentration, D-Depletion, RM-Reduced Matrix CS-Covered or Coated Sand Grains.  **Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.)  Histosci (A1)  Sandy Redox (S5)  2 cm Muck (A10)  Histosci (A1)  Histosci (A1)  Histosci (A2)  Siripped Matrix (S6)  Black Histic (A3)  X Loamy Mucky Mineral (F1) (except MLRA 1)  Depleted Belox Dark Surface (A11)  Depleted Belox Dark Surface (A12)  Trick Dark Surface (A12)  Sandy Mucky Mineral (S1)  Depleted Belox Dark Surface (F6)  Sandy Mucky Mineral (S1)  Depleted Dark Surface (F7)  Wetland Type:  Bed Present?  Type:  Hydric Soil Present?  Wetland Hydrology Indicators:  Hydric Soil Present?  Wetland Hydrology Indicators:  Phydrology Matrix (S4)  Water-Stained Leaves (B9) (except MLRA  Hydric Soil Present?  Wetland Hydrology Indicators:  Wetland Hydrology Indicators:  Wetland Hydrology Indicators:  Water-Marks B1)  Saft Crust (B11)  Sourface Water (A1)  Water-Stained Leaves (B9) (except MLRA  Hydric Water-Stained Leaves (B9) (MLRA 1, 2, 44, and 4B)  Surface Water (A1)  Water-Stained Leaves (B9) (MLRA 1, 2, 44, and 4B)  Surface Water (A1)  Water-Stained Leaves (B9)  Sodiment Deposits (B2)  Hydrogop Sulfide Odor (C1)  Sourface Water (A1)  Presence of Reductor (Truct)  Water Marks B1)  Sourface (B12)  Sourface (B12)  Sourface (B12)  Sourface (B13)  Ovidicator (B13)  Ovidicator (B13)  Phydrogop Sulfide Odor (C1)  Shallow Aquitard (D3)  Sourface (B14)  Presence of Reductor (D4)  Horn Deposits (B3)  Ovidicator (B10)  Sourface (B10)  Sourface (B10)  Sourface (B10)  Sourface (B10)  Prosesson Water Table (C2)  Shallow Aquitard (D3)  Sourface (B10)  Sourface (B10)  Sourface (B10)  Don's Season Water Table (C2)  Shallow Aquitard (D3)  Sourface (B10)  Frost-Heave Hummocks (D7)  Sparsely Vegetated Concave Surface (B8)  Field Observations:  Water Table Present? Yes X No Depth (inches):  Sourface Water (A1)  Water Stained Leaves (B9) (ERR A)  Frost-Heave Hummocks (D7)  Frost-Heave Hummocks (D7)  Sourface Water (A1)  Wetland Hydrology Present?  Yes X No Depth (	(inches)	Color (moist)	%	Color (mois	it) %	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histoso (A1) Histoso (A1) Black Histic (A3) Stripped Martix (S6) Black Histic (A3) X Loarny Mucky Mineral (F1) (except MLRA 1) Hydrogen Sulfide (A4) Loarny Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F5) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Peptide Layer (If present): Type: Depth (inches): Hydric Soil Present? Yes X No Person Matrix (B1) Surface (B1) Surface (B1) Surface (B1) Surface (B1) Sandy Mucky Mineral (B1) Surface (B1) Surfa	0-14	10YR 2/1	100					SiL	mucky
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histoso (A1) Histoso (A1) Black Histic (A3) Stripped Martix (S6) Black Histic (A3) X Loarny Mucky Mineral (F1) (except MLRA 1) Hydrogen Sulfide (A4) Loarny Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F5) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Peptide Layer (If present): Type: Depth (inches): Hydric Soil Present? Yes X No Person Matrix (B1) Surface (B1) Surface (B1) Surface (B1) Surface (B1) Sandy Mucky Mineral (B1) Surface (B1) Surfa				-					•
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histoso (A1) Histoso (A1) Black Histic (A3) Stripped Martix (S6) Black Histic (A3) X Loarny Mucky Mineral (F1) (except MLRA 1) Hydrogen Sulfide (A4) Loarny Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F5) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Peptide Layer (If present): Type: Depth (inches): Hydric Soil Present? Yes X No Person Matrix (B1) Surface (B1) Surface (B1) Surface (B1) Surface (B1) Sandy Mucky Mineral (B1) Surface (B1) Surfa				-					•
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histoso (A1) Histoso (A1) Black Histic (A3) Stripped Martix (S6) Black Histic (A3) X Loarny Mucky Mineral (F1) (except MLRA 1) Hydrogen Sulfide (A4) Loarny Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F5) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Peptide Layer (If present): Type: Depth (inches): Hydric Soil Present? Yes X No Person Matrix (B1) Surface (B1) Surface (B1) Surface (B1) Surface (B1) Sandy Mucky Mineral (B1) Surface (B1) Surfa									
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histoso (A1) Histoso (A1) Black Histic (A3) Stripped Martix (S6) Black Histic (A3) X Loarny Mucky Mineral (F1) (except MLRA 1) Hydrogen Sulfide (A4) Loarny Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F5) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Peptide Layer (If present): Type: Depth (inches): Hydric Soil Present? Yes X No Person Matrix (B1) Surface (B1) Surface (B1) Surface (B1) Surface (B1) Sandy Mucky Mineral (B1) Surface (B1) Surfa				<u> </u>				·	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histoso (A1) Histoso (A1) Black Histic (A3) Stripped Martix (S6) Black Histic (A3) X Loarny Mucky Mineral (F1) (except MLRA 1) Hydrogen Sulfide (A4) Loarny Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F5) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Peptide Layer (If present): Type: Depth (inches): Hydric Soil Present? Yes X No Person Matrix (B1) Surface (B1) Surface (B1) Surface (B1) Surface (B1) Sandy Mucky Mineral (B1) Surface (B1) Surfa								·	
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histoso (A1) Histoso (A1) Black Histic (A3) Stripped Martix (S6) Black Histic (A3) X Loarny Mucky Mineral (F1) (except MLRA 1) Hydrogen Sulfide (A4) Loarny Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F5) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Peptide Layer (If present): Type: Depth (inches): Hydric Soil Present? Yes X No Person Matrix (B1) Surface (B1) Surface (B1) Surface (B1) Surface (B1) Sandy Mucky Mineral (B1) Surface (B1) Surfa				<u> </u>					
Hydric Soil Indicators: (Applicable to all LRRs, unless otherwise noted.) Histoso (A1) Histoso (A1) Black Histic (A3) Stripped Martix (S6) Black Histic (A3) X Loarny Mucky Mineral (F1) (except MLRA 1) Hydrogen Sulfide (A4) Loarny Gleyed Matrix (F2) Depleted Below Dark Surface (A11) Depleted Matrix (F3) Thick Dark Surface (A12) Redox Dark Surface (F5) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (F1) Sandy Mucky Mineral (S1) Sandy Mucky Mineral (S1) Sandy Gleyed Matrix (S4) Redox Depressions (F8) Peptide Layer (If present): Type: Depth (inches): Hydric Soil Present? Yes X No Person Matrix (B1) Surface (B1) Surface (B1) Surface (B1) Surface (B1) Sandy Mucky Mineral (B1) Surface (B1) Surfa								<u> </u>	
Histosol (A1) Sandy Redox (S5) 2 cm Muck (A10) Histo Epipedon (A2) Stripped Matrix (S6) Red Parent Material (TF2)  Hydrogen Sulfide (A4) Loamy Mucky Mineral (F1) (except MLRA 1) Very Shallow Dark Surface (TF12)  Uvery Shallow Dark Surface (TF12)  Other (Explain in Remarks)  Depleted Below Dark Surface (A11) Depleted Matrix (F3)  Thick Dark Surface (A12) Redox Dark Surface (F6)  Sandy Mucky Mineral (S1) Depleted Dark Surface (F7) wetland hydrology must be present, unless disturbed or problematic.  Restrictive Layer (if present):  Type:  Depth (inches):  Remarks: S = sand; Si = silt; C = clay; L = loam or loamy; co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)  Shovel refusal at 14 inches by cobbles  HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (Iminimum of one required: check all that apply)  Surface Water (A1) Water-Stained Leaves (B9) (except MLRA 1, 2, 4A, and 4B)  X Saturation (A3) Salf Crust (B11) Darinage Patterns (B10)  Surface Water (A1) Aquatio Invertebrates (B13) Darinage Patterns (B10)  Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9)  Sediment Deposits (B3) Oxidized Rhilzospheres along Living Roots (C3) Saturation Visible on Aerial Imagery (C9)  Surface Soil Cracks (B6) Surface (B8)  Fecent Iron Reduction in Titled Soils (C6) Shallow Aquitar (D3) Fost-Heave Hummocks (D7)  Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Present? Yes No Depth (inches): 13  Wetland Hydrology Present? Yes X No Depth (inches): 13  Wetland Hydrology Present? Yes X No Depth (inches): 13  Wetland Hydrology Present? Yes X No Depth (inches): 14  Wetland Hydrology Present? Yes X No Depth (inches): 15  Wetland Hydrology Present? Yes X No Depth (inches): 17  Wetland Hydrology Present? Yes X No Depth (inches): 17  Wetland Hydrology Present? Yes X No Depth	<sup>1</sup> Type: C=Concentr	ration, D=Deplet	tion, RM=Re	duced Matrix CS-	=Covered or Coate	d Sand Grains.	<sup>2</sup> Location:	PL=Pore Lining, M=I	Vlatrix.
Histic Epipedon (A2)  Black Histic (A3)  X Loamy Mucky Mineral (F1) (except MLRA 1)  Depleted Below Dark Surface (F12)  Depleted Below Dark Surface (A11)  Depleted Matrix (F2)  Depleted Below Dark Surface (A12)  Pedox Dark Surface (F12)  Sandy Mucky Mineral (S1)  Sandy Gleyed Matrix (S4)  Depleted Dark Surface (F7)  Sandy Gleyed Matrix (S4)  Depleted Dark Surface (F7)  Bedox Depressions (F8)  Depleted Dark Surface (F7)  Wetland Hydrology must be present, unless disturbed or problematic.  Restrictive Layer (if present):  Type:  Depth (inches):  Remarks:  S = sand; Si = sit; C = clay; L = loam or loamy; co = coarse; f = fine; vf = very fine; + = heavy (more clay); -= light (less clay)  Shovel refusal at 14 inches by cobbles  HYDROLOGY  Wetland Hydrology Indicators:  Hydrogoly Indicators (minimum of one required: check all that apply)  Secondary Indicators (2 or more required)  Surface Water (A1)  High Water Table (A2)  Aquatic Invertebrates (B13)  Water Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  X Saturation (A3)  Sall Crust (B11)  Water Marks (B1)  Sediment Deposits (B2)  Hydrogon Sulfide Odor (C1)  Saturation Visible on Aerial Imagery (C9)  Algal Mat or Crust (B4)  Iron Deposits (B3)  Surface Water (B4)  Presence of Reduced Iron (C4)  Sparsely Vegetated Concave Surface (R8)  Frost-Heave Hummocks (D7)  Sparsely Vegetated Concave Surface (B8)  Frost-Heave Hummocks (D7)  Frost	Hydric Soil Indicat	tors: (Applicab	le to all LRR	is, unless other	wise noted.)		Indicators f	for Problematic Hyd	ric Soils <sup>3</sup> :
Black Histic (A3)	Histosol (A1)			Sandy Redo	ox (S5)		2 cm Mı	uck (A10)	
Hydrogen Sulfide (A4)  Depleted Below Dark Surface (A11)  Depleted Matrix (F2)  Thick Dark Surface (A12)  Redox Dark Surface (F6)  Sindicators of hydrophytic vegetation and wetland hydrology must be present, unless disturbed or problematic.  Restrictive Layer (if present):  Type:  Depth (inches):  Remarks:  S = sand; Si = silt; C = clay; L = loam or loamy; co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)  Shovel refusal at 14 inches by cobbles  HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  High Water Table (A2)  Saturation (A3)  Salt Crust (B11)  Water Marks (B1)  Secondary Indicators (B9) (MLRA 1, 2, 4A, and 4B)  Secondary Indicators (B9) (MLRA 1, 2, 4A, and 4B)  Secondary Indicators (B9) (MLRA 1, 2, 4A, and 4B)  A4, and 4B)  Secondary Indicators (B9) (MLRA 1, 2, 4A, and 4B)  A5, 24A, and 4B)  Drainage Patterns (B10)  Drainage Patterns (B10)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Sediment Deposits (B2)  Hydrogen Sulfide Odor (C1)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Presence of Reduced Iron (C4)  Iron Deposits (B5)  Recent Iron Reduction in Tilled Soils (C6)  Surface Soil Cracks (B6)  Surface Soil Cracks (B6)  Surface Soil Cracks (B6)  Surface Water Present?  Yes  No  Depth (inches):  Vater Table Present?  Yes  No  Depth (inches):  Surface Water Present?  Yes  No  Depth (inches):  Yes  X  No  Wetland Hydrology Present?  Yes  X  No  Depth (inches):  N	Histic Epipedor	n (A2)					Red Par	rent Material (TF2)	
Depleted Below Dark Surface (A11) Thick Dark Surface (A12) Redox Dark Surface (F6) Sandy Mucky Mineral (S1) Sendy Mucky Mineral (S1) Sendy Gleyed Matrix (S4) Redox Depressions (F8)  Wetland hydrology must be present, unless disturbed or problematic.  Restrictive Layer (if present): Type: Depth (inches):  Remarks: Sesand; Si = sill; C = clay; L = loam or loamy; co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)  Shovel refusal at 14 inches by cobbles  HYDROLOGY  Wetland Hydrology Indicators: Primary Indicators (minimum of one required; check all that apply) Surface Water (A1) Surface Water (A1) Water-Stained Leaves (B9) (except MLRA High Water Table (A2) 1, 2, 4A, and 4B) Water Marks (B1) Water Marks (B1) Saturation (A3) Salt Crust (B11) Drainage Patterns (B10) Dry-Season Water Table (C2) Sediment Deposits (B2) Hydrogen Sulfide Odor (C1) Saturation Visible on Aerial Imagery (C9) Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced fron (C4) Shallow Aquitard (D3) Iron Deposits (B6) Surface Soil Cracks (B6) Surface Soil Cracks (B6) Surface Water Present? Yes No Depth (inches): Surface Water Present? Yes No Depth (inches): Surface Water Present? Yes No Depth (inches): Surface Power Notes (B4) Wetland Hydrology Present? Yes No Depth (inches): Surface Resorted Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Black Histic (A:	3)		X Loamy Muc	ky Mineral (F1) (ex	cept MLRA 1)	Very Sh	allow Dark Surface (	TF12)
Thick Dark Surface (A12)	Hydrogen Sulfi	de (A4)		Loamy Gley	ed Matrix (F2)		Other (E	Explain in Remarks)	
Sandy Mucky Mineral (S1)	Depleted Below	v Dark Surface	(A11)	Depleted M	atrix (F3)		2		
Restrictive Layer (if present): Type: Depth (inches): Remarks: S = sand; Si = silt; C = clay; L = loam or loamy; co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)  Restrictive Layer (if present): Type: Depth (inches): Remarks: S = sand; Si = silt; C = clay; L = loam or loamy; co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)  Remarks: S = sand; Si = silt; C = clay; L = loam or loamy; co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)  Remarks: S = sand; Si = silt; C = clay; L = loam or loamy; co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)  Remarks: S = sand; Si = silt; C = clay; L = loam or loamy; co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)  Remarks: S = sand; Si = silt; C = clay; L = loam or loamy; co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)  Remarks: S = sand; Si = silt; C = clay; L = loam or loamy; co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)  Remarks: S = sand; Si = silt; C = clay; L = loam or loamy; co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)  Remarks: S = sand; Si = silt; C = clay; L = loam or loamy; co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)  Remarks: S = sand; Si = silt; C = clay; L = loam or loamy; co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)  Remarks: S = sand; Si = silt; C = clay; L = loam or loamy; co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)  Remarks: S = sand; Si = silt; C = clay; L = loam or loamy; co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)  Remarks: S = sand; Si = silt; C = clay; L = loam or loamy; co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)  Recondary lndicators: Manuals or light (less clay)  Recondary lndi	Thick Dark Sur	face (A12)					Indicators o	of hydrophytic vegeta	tion and
Restrictive Layer (if present):     Type:     Depth (inches):  Hydric Soil Present? Yes X No  Remarks: S = sand; Si = silt; C = clay; L = loam or loamy; co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)  HYDROLOGY  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required: check all that apply)  Surface Water (A1)  High Water Table (A2)  High Water Table (A2)  Salt Crust (B11)  Water Marks (B1)  Drainage Patterns (B10)  Water Marks (B1)  Drift Deposits (B2)  Hydrogen Sulfide Odor (C1)  Sodiment Deposits (B2)  Hydrogen Sulfide Odor (C1)  Sodiment Deposits (B3)  Algal Mat or Crust (B4)  Presence of Reduced Iron (C4)  Solf Crust (B4)  Presence of Reduced Iron (C4)  Sourface Soil Cracks (B6)  Surface Soil Cracks (B6)  Surface Soil Cracks (B6)  Sund Other (Explain in Remarks)  Sparsely Vegetated Concave Surface (B8)  Field Observations:  Water Table Present?  Yes X No  Depth (inches):  Wetland Hydrology Present?  Yes X No  Depth (inches):  Wetland Hydrology Present?  Yes X No  Depth (inches):  Wetland Hydrology Present?  Yes X No  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:							-		
Type: Depth (inches):  Depth (inches):  Depth (inches):  S = sand; Si = silt; C = clay; L = loam or loamy; co = coarse; f = fine; vf = very fine; + = heavy (more clay); - = light (less clay)  Wetland Hydrology Indicators:  Primary Indicators (minimum of one required: check all that apply)  Surface Water (A1)  Water-Stained Leaves (B9) (except MLRA  High Water Table (A2)  L1, 2, 4A, and 4B)  Water Marks (B1)  Water Marks (B1)  Drainage Patterns (B10)  Drift Deposits (B2)  Drift Deposits (B3)  Coxidized Rhizospheres along Living Roots (C3)  Geomorphic Position (D2)  Algal Mat or Crust (B4)  Presence of Reduced fron (C4)  Surface Soil Cracks (B6)  Surface Water Present?  Yes  No  X  No  Depth (inches):  Water Table Present?  Yes  X  No  Depth (inches):  Surface Rooted Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Sandy Gleyed	Matrix (S4)		Redox Depr	ressions (F8)		unless dis	turbed or problemation	<b>3</b> .
Wetland Hydrology Indicators:  Primary Indicators (minimum of one required; check all that apply)  Surface Water (A1)  Water-Stained Leaves (B9) (except MLRA  High Water Table (A2)  1, 2, 4A, and 4B)  Water Marks (B1)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Woter Method (B4)  Water Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Water Marks (B3)  Driv-Season Water Table (C2)  Sediment Deposits (B3)  Oxidized Rhizospheres along Living Roots (C3)  Geomorphic Position (D2)  Algal Mat or Crust (B4)  Presence of Reduced Iron (C4)  Shallow Aquitard (D3)  Iron Deposits (B5)  Recent Iron Reduction in Tilled Soils (C6)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Present?  Yes  No  Depth (inches):  Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Drintage Patterns (B10)  Drainage Patterns (B10)  Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Drainage Patterns (B10)  Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Drainage Patterns (B10)  Decomple Patterns (B10)  Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Water-Stained Leaves (B9) (MLRA 1, 2, 4A, and 4B)  Water-Stained Leaves (B9) (MLRa 4, and 4B)  Drainage Patterns (B10)  Decomple Patterns (B10)  Water-Stained Leaves (B9) (MLRa 4, and 4B)  Water-Stained Leaves (B9) (Mra 4, and 4B)  Drainage Patterns (B10)  Patterns (B10)  Water-Stained Leaves (B9)  Field Observations:  Surface Water Pre	Remarks: S =			= loam or loamy;	co = coarse; f = fine		<u> </u>		
Surface Water (A1)  High Water Table (A2)  1, 2, 4A, and 4B)  X Saturation (A3)  Salt Crust (B11)  Water Marks (B1)  Aquatic Invertebrates (B13)  Dry-Season Water Table (C2)  Sediment Deposits (B2)  Hydrogen Sulfide Odor (C1)  Saturation (C4)  Drift Deposits (B3)  Oxidized Rhizospheres along Living Roots (C3)  Iron Deposits (B5)  Recent Iron Reduction in Tilled Soils (C6)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Surface Water Present?  Yes  No  Depth (inches):  Surface Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:  Water-Stained Leaves (B9) (MLRA 1, 2,  4A, and 4B)  Water-Stained Leaves (B9) (MLRA 1, 2,  4A, and 4B)  Ata, and 4B)  Prisange Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Saturation Present?  Yes  X  No  Depth (inches):  Surface  Yes  X  No  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:		y Indicators:							
Surface Water (A1)	Primary Indicators (	(minimum of one	e required; cl	neck all that appl	y)		<u>Secondary I</u>	ndicators (2 or more	required)
High Water Table (A2)  X Saturation (A3)  Water Marks (B1)  Sediment Deposits (B2)  Drift Deposits (B3)  Algal Mat or Crust (B4)  Iron Deposits (B5)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Present?  Yes  No  No  Depth (inches):  Surface Roizord Aguate (Stream gauge, monitoring well, aerial photos, previous inspections), if available:  Aquatic Invertebrates (B13)  Drainage Patterns (B10)  Dry-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Saturation Present (B10)  Drainage Patterns (B10)  Drainage Patterns (B10)  Drainage Patterns (B10)  Dray-Season Water Table (C2)  Saturation Visible on Aerial Imagery (C9)  Saturation Visible on Aerial Imagery (C9)  Saturation Visible on Aerial Imagery (C9)  Saturation Visible on Aerial Imagery (B2)  Saturati	Surface Water	(A1)		Water-Stair	ned Leaves (B9) (e)	xcept MLRA	-		
Water Marks (B1)				1, 2, 4A,	and 4B)	-	4A, a	nd 4B)	
Sediment Deposits (B2)							Drainag	e Patterns (B10)	
Drift Deposits (B3) Oxidized Rhizospheres along Living Roots (C3) Geomorphic Position (D2) Algal Mat or Crust (B4) Presence of Reduced Iron (C4) Shallow Aquitard (D3) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Sparsely Vegetated Concave Surface (B8)  Field Observations: Surface Water Present? Yes No Depth (inches): Water Table Present? Yes X No Depth (inches): Saturation Present? Yes X No Depth (inches): Surface Wetland Hydrology Present? Yes X No Depth (inches): Surface Yes X No Surface Yes X	Water Marks (F	31)		Aquatic Inve	ertebrates (B13)		Dry-Sea	uson Water Table (C2	2)
Algal Mat or Crust (B4)  Presence of Reduced Iron (C4)  Shallow Aquitard (D3)  FAC-Neutral Test (D5)  Surface Soil Cracks (B6)  Inundation Visible on Aerial Imagery (B7)  Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Present? Yes  No  Depth (inches):  Water Table Present? Yes  X  No  Depth (inches):  Saturation Present? Yes  X  No  Depth (inches):  Surface  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Sediment Depo	osits (B2)		Hydrogen S	Sulfide Odor (C1)		Saturation	on Visible on Aerial I	magery (C9)
Iron Deposits (B5) Recent Iron Reduction in Tilled Soils (C6) FAC-Neutral Test (D5) Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8)  Field Observations: Surface Water Present? Yes No X Depth (inches): Water Table Present? Yes X No Depth (inches): 13 Saturation Present? Yes X No Depth (inches): surface (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Drift Deposits (	B3)		Oxidized Rh	nizospheres along I	_iving Roots (C3	Geomor	phic Position (D2)	
Surface Soil Cracks (B6) Stunted or Stressed Plants (D1) (LRR A) Raised Ant Mounds (D6) (LRR A) Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7) Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Present? Yes No Depth (inches): Water Table Present? Yes X No Depth (inches): 13 Saturation Present? Yes X No Depth (inches): surface (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Algal Mat or Cr	ust (B4)			-			Aquitard (D3)	
Inundation Visible on Aerial Imagery (B7) Other (Explain in Remarks) Frost-Heave Hummocks (D7)  Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Present? Yes No X Depth (inches):  Water Table Present? Yes X No Depth (inches): 13  Saturation Present? Yes X No Depth (inches): surface  (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Iron Deposits (	B5)		Recent Iron	Reduction in Tilled	d Soils (C6)	FAC-Ne	eutral Test (D5)	
Sparsely Vegetated Concave Surface (B8)  Field Observations:  Surface Water Present? Yes No X Depth (inches):  Water Table Present? Yes X No Depth (inches): 13 Wetland Hydrology Present?  Saturation Present? Yes X No Depth (inches): surface Yes X No Depth (inches): surface Yes X No Depth (inches): surface Yes X No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Surface Soil Cı	racks (B6)		Stunted or S	Stressed Plants (D	1) ( <b>LRR A</b> )	Raised /	Ant Mounds (D6) ( <b>LF</b>	iR A)
Field Observations:  Surface Water Present? Yes No X Depth (inches):  Water Table Present? Yes X No Depth (inches): 13 Wetland Hydrology Present?  Saturation Present? Yes X No Depth (inches): surface Yes X No Depth (inches): surface Yes X No Depth (inches): surface Yes X No Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Inundation Visi	ble on Aerial Im	agery (B7)	Other (Expl	ain in Remarks)		Frost-He	eave Hummocks (D7	)
Surface Water Present? Yes No X Depth (inches):  Water Table Present? Yes X No Depth (inches): 13  Saturation Present? Yes X No Depth (inches): surface  (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Sparsely Vege	tated Concave S	Surface (B8)						
Water Table Present? Yes X No Depth (inches): 13 Wetland Hydrology Present?  Saturation Present? Yes X No Depth (inches): surface Yes X No (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Field Observation	s:							
Water Table Present? Yes X No Depth (inches): 13 Wetland Hydrology Present?  Saturation Present? Yes X No Depth (inches): surface Yes X No (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Surface Water Pre	sent? Yes		No X	Depth (inches):	<u>.</u>			
Saturation Present? Yes X No Depth (inches): surface Yes X No Depth (includes capillary fringe)  Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Water Table Prese						Wetland	d Hydrology Presen	t?
Describe Recorded Data (stream gauge, monitoring well, aerial photos, previous inspections), if available:	Saturation Present								
	, ,	fringe)			, , , , ,				<u> </u>
Remarks: Entered by: MV QC by:	Describe Recorded	Data (stream ç	gauge, monit	oring well, aerial	photos, previous in	spections), if av	/ailable:		
,	Remarks:							Entered by: MV	QC bv:
								- <del></del>	<u> </u>

Project/Site: L	ookout Pass		City/County:	Mineral Cour	nty	Sampling Da	ite: 6/26/20	15
Applicant/Owner:	USDA Forest Service				State: Montar	Samplin	g Point:	P10
Investigator(s):	Matthew Vesh and Amanda	a Christensen	Section, T	ownship, Rang	ge: 4, 48N, 32W			
Landform (hillslope	e, terrace, etc.): hillslope			Local relief	(concave, convex, none):	none	Slope (%	): 20
Subregion (LRR):	E, Rocky Mountain Forests	and Rangeland	Lat:	Lon	ıg:	Datu	m:	
Soil Map Unit Nar	me:				NWI c	lassification:	None	
Are climatic / hyd	rologic conditions on the site	• •	•	Ye			xplain in Re	
Are Vegetation			significantly		Are "Normal Circumstan	-		No
Are Vegetation	,Soil	, or Hydrology			(If needed, explain any a			
	F FINDINGS – Attach	•		point local	lions, transects, ir	nportant to	<u>eatures,</u>	etc.
Hydrophytic Vege		Yes	No X	Is the Samp	alad Araa			
Hydric Soil Prese		Yes	No X	within a We	Man 40		V	
Wetland Hydrolo	= -	Yes	No X		165	No	<u> </u>	
Precipitation prior Remarks:	to fieldwork: U inches tv	vo weeks prior, 82	% precipitation acc	cumulation of av	verage for water year.			
VEGETATION	I							
_		Absolute	Dominant	Indicator	Dominance Test wo	orksheet:		
Tree Stratum	(Plot size: <u>30' r</u> )	% Cover	Species?	<u>Status</u>	Number of Dominan	t Species		
1. Abies lasioca	arpa	30%	Yes	FACU	That Are OBL, FACV	N, or FAC:	1	_ (A)
2. Picea engeln	nannii	30%	Yes	FAC				
3. Pinus contort	ta	15%	No	FAC	Total Number of Dor	minant		
4.					Species Across All S	Strata:	4	(B)
			= Total Cover					
Sapling/Shrub Str	ratum (Plot size: 10' i	<u>( )</u>			Percent of Dominant	t Species		
	embranaceum	25%	Yes	FACU	That Are OBL, FACV	N, or FAC:	<u>25%</u>	(A/B)
2.					Prevalence Index w			
3.					Total % Cover of	of: Multiply	by:	
4.						0 x 1 =	0	
5.					· · · · ·	0 x 2 =	0	
	(Diet eizer Ein )	25%	= Total Cover		· · · · ·	81 x 3 =	18	
Herb Stratum	(Plot size: <u>5' r</u> )				· · · · · · · · · · · · · · · · · · ·	85 x 4 =	26	<del></del> -
1. Xerophyllum		40%	Yes	FACU		5 x 5 =	25	
2. Maianthemur		15%	No	FAC		31 (A)	46	8 (B)
3. Coptis occide		5%	<u>No</u>	NOL	Prevalence Index		<u>3.57</u>	
4. <u>Veratrum viri</u>	de	1%	No	FAC	Hydrophytic Vegeta			_
5.					1 - Rapid Test fo		; vegetatioi	1
6.					2 - Dominance T			
7.					3 - Prevalence Ir		1.00	
8.					4 - Morphologica	-		
9.						arks or on a se		et)
10.					5 - Wetland Non			( ( )
11.			T + 1.0		Problematic Hyd			
Woody Vine Strat	tum (Plot size: 10' ı		= Total Cover		<sup>1</sup> Indicators of hydric be present.	soil and wetla	ind nydrolo	gy must
2.					Hydrophytic			
		0%	= Total Cover			Yes	No X	
% Bare Ground ir	n Herb Stratum 39%				Present?			_
						d by: MV	OC by.	
Remarks:					Entered	d by: MV	QC by:	

Profile Description: (Des	scribe to the depth	needed to documen	t the indicator	or confirm the	e absence of in	dicators.)	
Depth	Matrix	_	Redox Fe	atures			
(inches) Color (n	noist) %	Color (moist)	%	Type <sup>1</sup>	Loc <sup>2</sup>	Texture	Remarks
0-2 ON	<u> </u>						
2-8 10YR	2/1 100					SiL	
8-17 10YR	2/2 100					SiL	coarse gravels
	<u> </u>	_					
	<u> </u>	_					
		_					
<sup>1</sup> Type: C=Concentration, D	•			Sand Grains.		PL=Pore Lining, M=M	_
Hydric Soil Indicators: (A	pplicable to all LR					r Problematic Hydr	ic Soils":
Histosol (A1)		Sandy Redox (S			2 cm Mud	, ,	
Histic Epipedon (A2)		Stripped Matrix				nt Material (TF2)	
Black Histic (A3)		Loamy Mucky M		ept MLRA 1)		llow Dark Surface (T	F12)
Hydrogen Sulfide (A4)		Loamy Gleyed N	, ,		Other (Ex	plain in Remarks)	
Depleted Below Dark S	, ,	Depleted Matrix			3, ,, ,		
Thick Dark Surface (A		Redox Dark Sur				hydrophytic vegetati	
Sandy Mucky Mineral (		Depleted Dark S			-	drology must be pres	
Sandy Gleyed Matrix (	S4)	Redox Depressi	ons (F8)		unless distu	urbed or problematic.	
Depth (inches):  Remarks: S = sand; S Shovel refusal at 15 inches  HYDROLOGY	-	= loam or loamy; co =	coarse; f = fine;		lydric Soil Pres ; + = heavy (mor		No X
Wetland Hydrology Indica	itors:						
Primary Indicators (minimu	m of one required; o	check all that apply)			_ <u>Secondary In</u>	dicators (2 or more r	equired)
Surface Water (A1)		Water-Stained L	eaves (B9) (exc	ept MLRA	Water-Sta	ained Leaves (B9) (N	ILRA 1, 2,
High Water Table (A2)		1, 2, 4A, and	4B)		4A, an	d 4B)	
Saturation (A3)		Salt Crust (B11)			Drainage	Patterns (B10)	
Water Marks (B1)		Aquatic Inverteb	orates (B13)		Dry-Seas	on Water Table (C2)	
Sediment Deposits (B2	2)	Hydrogen Sulfid	e Odor (C1)		Saturation	n Visible on Aerial Im	nagery (C9)
Drift Deposits (B3)		Oxidized Rhizos	pheres along Li	ving Roots (C3	B) Geomorp	hic Position (D2)	
Algal Mat or Crust (B4)	)	Presence of Re	duced Iron (C4)		Shallow A	Aquitard (D3)	
Iron Deposits (B5)		Recent Iron Rec	duction in Tilled	Soils (C6)	FAC-Neu	tral Test (D5)	
Surface Soil Cracks (B	6)	Stunted or Stres	ssed Plants (D1)	(LRR A)	Raised A	nt Mounds (D6) ( <b>LRF</b>	R A)
Inundation Visible on A	verial Imagery (B7)	Other (Explain in	n Remarks)		Frost-Hea	ave Hummocks (D7)	
Sparsely Vegetated Co	oncave Surface (B8)						
Field Observations:							
Surface Water Present?	Yes	No X [	Depth (inches):				
Water Table Present?	Yes	_	Depth (inches):	17	Wetland	Hydrology Present	?
Saturation Present? (includes capillary fringe)	Yes	_	Depth (inches):	17		Yes	No <u>X</u>
Describe Recorded Data (s	stream gauge, moni	toring well, aerial phot	os, previous ins	pections), if av	vailable:		
Domorko:						Entered by: MV	OC by:
Remarks:						Entered by: MV	QC by:

# **ATTACHMENT B**

Photographs



Figure B1. Wetland A. View north.



Figure B2. Wetland B. View east from western boundary of wetland area.



Figure B3. Wetland B. View north from road at eastern boundary of project area.



Figure B4. Wetland C. View south.



Figure B5. Wetland D. View west.



Figure B6. Tributary SR2. View north.



Figure B7. Tributary CA2. View north from western channel of braided stream.



Figure B8. Tributary CA2 with Wetland C. View south near project area boundary.